

# MINING journal VOL. 288

AND

# MINING magazine VOL. 136

# INDEX

1977

JANUARY-JUNE

## CONTENTS

Metals and Minerals	Page 1
Countries	Page 3
Methods and Machines	Page 7
Companies and Other Public Bodies	Page 9

A Article
D Mining Digest
E Editorial
H Highlights
IA Industry in Action

## INDEX CLASSIFICATION

L Letters	N Notes and Comments
M Methods and Machines	O Obituaries
ME Company Meetings	P Panorama
MF Mining Finance	R Book Reviews
MW Mining Week	S Metal Markets

This combined index covers the complete editorial content of both Mining Journal and Mining Magazine. Additional copies may be obtained from the Subscription Department.

## Metals and Minerals

### ALUMINIUM

Japan: smelters to pay more	IA J013
U.K. aluminium up again	IA J013
Alcoa hit by cold	IA J068
Alcoa U.K. charges more	S J090
Italian aluminium reorganisation	IA J105
IPAI output up	IA J105
Current problems	MW J138
Alcan looks ahead	IA J144
Alvest participants increase?	IA J144
Japanese aluminium crisis	IA J145
Seabee expansion	IA J162
Furukawa agreement	IA J164
Alcoa/Kaiser up ingot prices	S J230
Aluminium up	IA J248
More from Kurri Kurri/Weipa	IA J267
Alcoa to spend more	IA J268
Reynolds: ups and downs	IA J288
U.S. consumption chasing output	MW J304
Aluminium talks commence	IA J311
More aluminium from IPAI	IA J329
Integrated Asahan complex unlikely?	IA J348
Gladstone smelter costs double	IA J349
Sumitomo to ship more alumina	IA J350
World Aluminium Survey	IA J351
Aluminium firms	S J353
Australia looks to ingot exports	MW J362
Venezuelan alumina refinery planned	IA J370
Philippine refinery deferred	IA J393
Karmoy still undecided	IA J393
Alcan controversy	IA J412
IPAI stocks down	IA J413
Alcan at La Beie	IA J435
China buys refined aluminium?	IA J437
Fire at Delfzijl	IA J434
Cheaper refining by VAW?	IA J473
Asahan development underway	IA J474
Mitsubishi confirms sale	IA J474
UNIDO: aluminium smelter workshop	IA J475
Kaiser to charge more	S J477
Omaha costs double	IA J492
Long haul back for Delfzijl	IA J492
More from IPAI	IA J492
Japanese smelters seek loan	IA J492
Alcan U.K. price rise	S J494

### ANTIMONY

Thibino: Thai switch?	IA J047
-----------------------	---------

Honduras antimony for Japan	IA J349
Victoria: drill results awaited	IA J435

### ASBESTOS

Rhodesian asbestos find	IA J066
More Soviet asbestos scheduled	IA J088
Stricter standards urged	MW J099
Confusion in Quebec	MW J137
Asbestos confusion continues	IA J163
Midlothian asbestos mine closed	IA J199
Woodsreef reports	IA J295
Asbestos IV	IA J249
Turkey buys S.A. asbestos mill	IA J269
'Poker game' in Quebec	MW J302
Canadian asbestos mine forced to close	P M334
McAdam plans	IA J452

### BARYTES

Barytes in Pakistan	IA J123
Barytes in India	IA J123
Turkey: barytes find	IA J491

### BAUXITE

More work at Mt. Saddleback	IA J031
Indian exploration progresses	HW J044
Aurubion again?	IA J047
Bauxite deposits in southern Italy	D M061
From Trombetas to Paragominas	IA J124
Bauxite/alumina - sea trade recovery	N J134
Bauxite bargaining reported	IA J181
International Bauxite Association	A M185
More for Comalco?	IA J310
Jamaican bauxite reserves	IA J435
D.D.R. aid for Guyana bauxite?	IA J453
Guyana approves bauxite industry reorganisation	IA J455
Rennell denial	IA J491
Guyana profits down	IA J492

### BERYLLIUM

Beryllium copper goes up	IA J181
--------------------------	---------

### BISMUTH

'Minors' down	S J416
---------------	--------

### CADMIUM

Cadmium Abstracts	IA J050
-------------------	---------

### CHROME

Sudan chrome agreement	IA J047
Chromite supply questions	MW J062
More on Ingersoll chrome	IA J066
Brazilian chrome bound for Japan	IA J068
Japanese chrome cutback?	IA J089
U.S. pressure on chrome imports	MW J117
Chromium overview	N J153
Byrd Amendment repealed	MW J193
Japanese stockpile purchases	IA J248
Chrome search in Sulawesi	IA J308
S.A./Japan agreement on ferrochrome	MW J325
Tubate opening	IA J394
S.A. ferrochrome breakthrough	IA J436
New S.A. chrome mine	IA J436
India to expand Fe Chr capacity?	IA J453
Problems in enforcing U.K. ban	MW J468
Pakistan plans another chrome plant	IA J473

### COAL

Coal developments - 2	MW J007
Rocky Mountain report	IA J011
S.A. postpones coal mine	IA J011
Coal in Nova Scotia	IA J012
Loan for Pakistan coal mine	IA J012
Coking coal cuts?	IA J013
Peabody to sell coal mines?	IA J013
Prospects for Botany Bay's coal loader	MW J026
Gregg River restudied	IA J032
Gulf & Western buy coal mine	IA J033
BP to buy KC licences	MW J043
More coal from La Luz	IA J049
Belvoir exploration complete	IA J066
Westfield expansion	IA J067
Competition for German Creek contract	IA J069

Pay, productivity and the future for coal	MW J101
Long Canyon coal studied	IA J104
Sage Creek progresses	IA J105
Turkey: more coal-fired power	IA J105
Japanese coal imports	IA J106
Multinational coal	IA J122
Work begins on coal washery	IA J122
More coal from Haidia	IA J124
Closer look at Kiwi coal	MW J138
Talameen optioned	IA J143
Markushey under way	IA J144
Coal liquefaction at Nagasaki	IA J144
U.S. coal competitiveness improves	IA J144
Indian coal tests in Japan	IA J144
Liquid fuels from coal	N B131
Thiessen-Peabody - mindal?	MW J156
BHP coal news	IA J164
Botany Bay loader hangs fire	IA J180
Chile: coal reserves doubled	IA J180
Polish coal sales	IA J182
Modern coal preparation	IA J182
Third major new coalfield	MW J195
German Creek decided	IA J198
Consol agrees to lease	IA J200
Development possibilities for U.K. coal	P B148
Japanese coal study	IA J267
Queensland coal contract awarded	IA J268
More for S.A. coal	IA J268
Sudandih colliery closed	IA J269
Alaskan coal study complete	IA J269
New markets for Australian coal?	IA J290
Contracts for Manse Coal	IA J291
Transvaal coal find	IA J308
Another Aussie coal agreement?	IA J310
General Exploration adds to reserves	IA J310
U.K. coal productivity problems	MW J323
Bogabui encouraging	IA J328
McInnes to join U.S. coal ranks	IA J328
Loan for Pakistan coal mine	IA J329
Alco out of Quintette	IA J330
Poland: coal for finance?	IA J330
Third 'new coalfield' found in U.K.	P M242
Poland's coal and lignite mining programme	A M247
Greece adds to lignite reserves	IA J348
Jellishah next?	IA J348
AMC coal convention	MW J363
More for Kaiser Resources	IA J370
Enacar cuts back	IA J371
U.S. coal prospects	N J383
Getty in coal/nickel agreements	IA J392

Nimmet establishes coal section  
Norwich Park tenders shortly?  
Coal bargaining continues  
Coal or uranium?  
Underground at German Creek?  
K. German coal find  
Kaiser widens markets  
A coal policy  
Major U.S. sale to Rumania  
Chile: coal diversification  
World outlook for metallurgical coals and coke  
Iranian coal find  
More for Clutha  
FTC approves Peabody sale  
NSC coal: hard talks, high sales  
Belvoir development urged  
Equipment for Shirebrook  
Coalcom - a prognosis for coal

IA 3393  
IA 3394  
IA 3395  
MW 3396  
IA 3411  
IA 3411  
IA 3415  
E M331  
MW 3433  
IA 3437  
MW 3438  
IA 3452  
IA 3455  
MW 3465  
MW 3468  
IA 3491  
IA 3493  
A M452

Ertsburg contract for Fluor  
Copper moves higher  
Copper contract in Geneva  
Nikko to be rebuilt  
Copper's ups and downs  
Copper at Dugangpur  
Second Mint copper tender  
Copper depressed  
New Philippine copper project  
Frieda River agreement  
Copper barely steady despite stocks' fall  
Malankhand mine details  
Copper suppliers in 1976  
Manitoba finds  
Copper smelter at Taipei  
Copper venture for Argentine  
Chile: copper output rising  
Japanese copper: good news  
Japanese copper: bad news  
Kinsenda near start up  
Invitation to Manus Island  
Copper regains losses  
U.S. strike prospects  
Mining at Bajo La Alumbrera?  
Lakeshore roaster approval  
Amarillo force majeure denied  
Japanese copper has remains  
Copper gains not fully held  
Lakeshore's difficulties being  
Prospects for copper  
Mining activity in the Western  
Leaching of copper sulphide ores and concentrates

IA 3370  
S 3373  
MW 3387  
IA 3393  
S 3395  
IA 3411  
IA 3415  
S 3416  
P M335  
MW 3431  
S 3438  
MW 3448  
MW 3449  
IA 3452  
IA 3452  
IA 3453  
IA 3453  
JA 3454  
IA 3454  
MW 3467  
S 3477  
MW 3480  
IA 3491  
IA 3492  
IA 3493  
S 3494  
P M431  
A M463  
A M467  
D M528

European D-R plans  
Mecon in Nigeria  
Steel plant for Hindanao  
Barro de Cozalis progresses  
More from Mt. Newman?  
Pickands Mather charges more  
Finnish horizontal feeders  
Iron and steel complex at  
Bisurata?  
Bids to supply Krakatau Steel?  
Cladding output  
Censored horizons for iron and coal  
Venezuela ships less iron  
W.A. moves to keep steel  
option open  
Type-side D-R agreement  
Germans at Oteulak Lake  
Kudremukh makes progress  
Mutan study progresses  
Brazilian iron ore  
Mikhailov iron ore combine  
Mine for Surigao?  
Iron plant for El Jadida?  
E.C. steel aid insufficient?  
Saldana B.R. exports mount  
Brazilian D.R. plant uses new process  
Doubts about E.E.C. minimum price plan  
Iron ore mine attacked  
Cliffs Robe River ups reserves  
Loan for Huasco  
Spanish DR plans progress  
Samarco/Kobe agreement  
Australia remains Japan's chief source  
Kudremukh costs rise  
Less from Djerissa  
Brazil: new iron markets  
Sonar seeks hopper  
Polisario warning  
Emden go-ahead  
More from Elvethel  
CVRD on Iraq agreement  
Feed for Kaohsiung  
Upgrading plant planned for Hamersley  
Iron ore mining at Moyave  
Swedish iron ore gloom  
Sherwood closure scheduled?  
Brazil: iron ore for Austria  
Foreign participation sought for Argentine steel complex  
Brazilian steel loan agreed  
Kostamus go-ahead  
Rube switch  
Iron-steel talks in Algiers  
Arco buys CVRD ore  
Mining activity in the Western World

## MANGANESE

Brazil: ferro-alloy expansion  
A buyers' market  
Zambian mine reopening  
Manganese bargaining continues  
Manganese nodule project  
Octane boosting application is attacked  
Manganese settlement soon?  
Japanese manganese agreements  
Plasma furnace for processing manganese nodules  
Processing of manganese nodules D

IA 3067  
MW 3138  
IA 3181  
IA 3229  
MW 3243  
MW 3388  
IA 3394  
IA 3415  
D M427

## MERCURY

Surprise mercury advance  
GSA mercury bid rejected  
Jugoslav mercury shutdown?  
Mercury lacks offers  
Soviet mercury mine  
Mercury weaker  
U.S. mercury output doubles

S J051  
S J107  
IA 3200  
IA 3257  
D M315  
S J373  
IA 3474

## MICA

Mica finds in Andhra Pradesh

IA 3225

## MOLYBDENUM

Molybdenum shortage?  
Henderson - on stream  
Placer: Canadian molybdenum price rise?  
Molybdenum find?  
Brazil: molybdenum find

IA 3068  
A M010  
IA 3124  
IA 3143  
IA 3348

## NATURAL GAS

Alaskan gas: Judge favours Arctic Gas route

MW 3081

## NICKEL

Cerro Matoso uncertainties  
U.K. nickel lower  
New Caledonian nickel gloom  
Shangai to stockpile more nickel  
Nickel expansion in New Caledonia  
Finance for Cerro Matoso  
Nickel: Japanese unsettled  
Forrestania: new study  
More for the Japanese stockpile  
Japanese ferro-nickel in balance  
U.K. nickel prices adjusted  
New chapter at Clydach  
Timmins nickel/copper find  
U.K. nickel lower  
Sorsoko nickel project launched  
Nickel discounts  
Sumitomo cuts back on nickel  
Upper Volta nickel find  
Falconbridge plans  
Inco changes its mind  
U.K. nickel adjusted  
Gebe shelved?  
First shipment from Rio Tuba  
New Quebec Baglan reassessment  
Montcalm work continues  
Sorsoko nickel project on stream  
Brief respite for Carr Boyd  
Japan: nickel stocks grow

MW 3025  
S J035  
IA 3049  
IA 3067  
P M006  
IA 3087  
IA 3106  
IA 3121  
IA 3122  
IA 3145  
IA 3150  
MW 3176  
IA 3247  
S J270  
MW 3281  
S J293  
IA 3309  
IA 3328  
IA 3329  
IA 3330  
IA 3350  
IA 3392  
IA 3411  
P M333  
IA 3436  
IA 3474

## OIL

Moves to price up oil and gas  
Tar sands add to Alberta's energy reserves  
Trans-Alaska oil flows

MW 3139  
MW 3465  
IA 3494

## PHOSPHATE

Recovery plant go-ahead for Uncle Sam  
Iranian phosphate finds  
Peruvian phosphate plans  
What of the future?  
Iranian-iron-phosphate rock plant  
Third phosphate project  
Spanish at Bayovar  
Hazara studies progress  
Tunisia plans less iron, more phosphate  
Reassessment of E.E.C. resources  
Brazil: phosphate mine at Catalao  
Cargill uncompetitive  
India: phosphate plant planned  
Tunisia seeks phosphate buyers  
Mining commission agreed  
More on Jharkhand  
Tajik phosphate rock plant in Iraq  
Credits for OCP

MW 3065  
IA 3143  
IA 3144  
P M070  
P M071  
MW 3166  
IA 3163  
IA 3163  
IA 3169  
MW 3221  
IA 3226  
IA 3268  
IA 3287  
IA 3291  
IA 3308  
IA 3309  
U 3434  
IA 3137

## COBALT

Hoboken: U.S. cobalt plant?  
Japan: cobalt refining outlook gloomy  
Sogemil: U.K. cobalt increase  
War and the price of cobalt  
Japan: cobalt outlook

IA 3087  
IA 3181  
IA 3181  
MW 3364  
IA 3454

## COPPER

Copper at Capapaya  
Chile: one million tonnes copper  
Copper stocks top 600,000 tonnes  
Copper finds in Indian state  
Namoi work to resume  
Krupp/Weich in Sar Cheshmeh  
Japan: treatment changes to rise?  
Copper stocks continue upwards  
Baiti copper discovery  
Zaire copper via Dar?  
Copper stronger  
No anti-trust actions  
Sar Cheshmeh progresses  
Copper stocks lower  
Cusajone brought to production  
Copper discovery in South Australia  
Copper recovery from oxide ore at Twin Buttes, Arizona  
Whit Creek's thunders  
Next phase at Ok Tedi  
Copper recovers from a fall  
Malankhand to go ahead  
Cerro Verde report  
Copper steady  
Counting chickens?  
Copper continues quiet  
Copper - no joy at Geneva  
Montana applications  
Euro-Thal gets go-ahead  
Copper makes ground  
Promising drilling at Teutonic Bore  
Rhodesian copper complex problems  
Chilean news  
Orto-Bunvire optioned  
Madeline closed  
Copper capacity monitored  
Copper advances  
Egyptian copper/nickel find  
U.S. Mint looks for copper  
Copper makes headlines  
Seabed find off W.A.  
Red Mountain work continues  
More problems for Zaire copper  
Tobu to stop copper refining  
Further fall in copper stocks  
No consensus on price stabilisation  
Smelters' plea for higher copper charges  
Germans at Highland Valley?  
Redbank evaluation continues  
Mining at Camanlangen?  
Interest expressed in Cerro Verde II  
Copper holds firm  
Copper in Oman?  
Aid for Norwegian copper mines  
Copper's steadier performance  
Copper: a kind of equilibrium  
Star Mountain prospects offered  
Chile: mine development agreed  
Copper retreats  
Copper stockpile talk again  
Phillipine export ban?  
Michiquillay decision deferred again  
Japan: copper outlook  
Two-way tug on copper  
Copper consumption prospects  
Saindak estimate  
B.C. processing subsidised?  
Mixed news from Chilean mining  
Copper: Kennecott's gloom  
Nervous selling hits copper  
Marceba auction  
Codelco: price forecast  
Copper sets the tone  
Iranian copper mine progress  
Tierra  
Split pricing in U.S.  
N. Peru copper find  
Whitehorse Copper reports  
Copper recovery urged  
Talks on Quellaveco  
Talks on Michiquillay

IA 3011  
IA 3012  
S J014  
IA 3031  
IA 3031  
IA 3032  
IA 3032  
S J035  
IA 3047  
IA 3050  
S J051  
MW 3063  
IA 3068  
S J070  
P M005  
P M007  
A M038  
MW 3079  
IA 3086  
S J080  
IA 3104  
IA 3105  
S J107  
MW 3117  
IA 3125  
MW 3137  
IA 3143  
IA 3144  
S J147

Ertsburg contract for Fluor  
Copper moves higher  
Copper contract in Geneva  
Nikko to be rebuilt  
Copper's ups and downs  
Copper at Dugangpur  
Second Mint copper tender  
Copper depressed  
New Philippine copper project  
Frieda River agreement  
Copper barely steady despite stocks' fall  
Malankhand mine details  
Copper suppliers in 1976  
Manitoba finds  
Copper smelter at Taipei  
Copper venture for Argentine  
Chile: copper output rising  
Japanese copper: good news  
Japanese copper: bad news  
Kinsenda near start up  
Invitation to Manus Island  
Copper regains losses  
U.S. strike prospects  
Mining at Bajo La Alumbrera?  
Lakeshore roaster approval  
Amarillo force majeure denied  
Japanese copper has remains  
Copper gains not fully held  
Lakeshore's difficulties being  
Prospects for copper  
Mining activity in the Western  
Leaching of copper sulphide ores and concentrates

IA 3370  
S 3373  
MW 3387  
IA 3393  
S 3395  
IA 3411  
IA 3415  
S 3416  
P M335  
MW 3431  
S 3438  
MW 3448  
MW 3449  
IA 3452  
IA 3452  
IA 3453  
IA 3453  
JA 3454  
IA 3454  
MW 3467  
S 3477  
MW 3480  
IA 3491  
IA 3492  
IA 3493  
S 3494  
P M431  
A M463  
A M467  
D M528

European D-R plans  
Mecon in Nigeria  
Steel plant for Hindanao  
Barro de Cozalis progresses  
More from Mt. Newman?  
Pickands Mather charges more  
Finnish horizontal feeders  
Iron and steel complex at  
Bisurata?  
Bids to supply Krakatau Steel?  
Cladding output  
Censored horizons for iron and coal  
Venezuela ships less iron  
W.A. moves to keep steel  
option open  
Type-side D-R agreement  
Germans at Oteulak Lake  
Kudremukh makes progress  
Mutan study progresses  
Brazilian iron ore  
Mikhailov iron ore combine  
Mine for Surigao?  
Iron plant for El Jadida?  
E.C. steel aid insufficient?  
Saldana B.R. exports mount  
Brazilian D.R. plant uses new process  
Doubts about E.E.C. minimum price plan  
Iron ore mine attacked  
Cliffs Robe River ups reserves  
Loan for Huasco  
Spanish DR plans progress  
Samarco/Kobe agreement  
Australia remains Japan's chief source  
Kudremukh costs rise  
Less from Djerissa  
Brazil: new iron markets  
Sonar seeks hopper  
Polisario warning  
Emden go-ahead  
More from Elvethel  
CVRD on Iraq agreement  
Feed for Kaohsiung  
Upgrading plant planned for Hamersley  
Iron ore mining at Moyave  
Swedish iron ore gloom  
Sherwood closure scheduled?  
Brazil: iron ore for Austria  
Foreign participation sought for Argentine steel complex  
Brazilian steel loan agreed  
Kostamus go-ahead  
Rube switch  
Iron-steel talks in Algiers  
Arco buys CVRD ore  
Mining activity in the Western World

## DIAMONDS

Not only a girl's best friend  
Diamond interest grows  
Diamonds in Western Australia  
Indian diamonds unsold  
Problems for mining  
Australian diamond developments  
C.A. diamond output still falling

MW 3027  
IA 3066  
IA 3086  
IA 3088  
MW 3304  
IA 3369  
P M335

## GEMSTONES

Colombia: emerald licence  
Emerald green?  
S.A. to control emerald sales  
Gem search in Victoria

IA 3088  
MW 3193  
IA 3290  
IA 3452

## GOLD

Further work at Santa Clara  
Indian gold discoveries  
Libertad on stream shortly  
More gold at Kushikino  
Philippines: aid for gold mines  
UW gold \$135.26/oz.  
A proposal for the economic use of Government gold stocks  
On-site help for gold miners?  
Gold, uranium in Assam  
S. African gold  
Lead problems  
Gold: assistance rejected  
Gold: assistance approved  
Gold rises sharply  
Gold mining at Butte?  
More ore at La Libertad?  
First shipment from Cerro El Dorado  
Elandsrand schedule advanced by one year  
Qualified cheer from the gold price  
Gold auction result  
Yukon consortium adds claims  
India: record gold output  
Thailand to import gold  
Gold auction  
Japanese encounter HG gold  
Mt. Charlotte/Blue Spec improvements  
Confidence in gold

IA 3031  
IA 3031  
IA 3048  
IA 3067  
IA 3068  
S 3070  
A M033  
IA 3088  
IA 3121  
IA 3123  
IA 3148  
IA 3164  
IA 3164  
S 3165  
IA 3165  
IA 3199  
IA 3200  
P M147  
IA 3248  
S J299  
IA 3328  
IA 3329  
IA 3330  
S J353  
IA 3370  
IA 3393  
N J463

## GYPSUM

Work starts on gypsum mine

IA 3048

## IRON & STEEL

Bleak outlook for Canadian mines  
Chile: Ruasco project details  
Cleveland-Cliffs charge more  
Iron ore cutbacks  
Venezuelan ore handling contract  
Colombian iron/steel examined  
CVRD: another pellet plant underway  
Argentina seeks bids  
Continuous miner in Lorraine  
James Bay Development extends property  
Turkish find  
Agnew Clough to double output?  
Puerto Ordaz on stream  
More Fe pellet price rises  
Pakistan: iron ore exploration approved

MW 3027  
IA 3031  
IA 3032  
IA 3033  
IA 3033  
IA 3048  
IA 3049  
IA 3050  
D M061  
IA 3104  
IA 3104  
IA 3104  
IA 3105  
IA 3106  
IA 3121

## MAGNESITE

Partner for Brisa

## MAGNESIUM

Magnesium plant - small rise  
Magnesium plants planned  
Magnesium meetings  
Magnesium - more from Norsk Hydro  
Magnesium plant in Quebec

IA 3370  
IA 3370  
IA 3370  
IA 3412  
IA 3436

## PLATINUM

Rustenburg adjusts PGM sterling prices	IA	J013
Uncertain prospects	MW	J062
Flexible expansion for Rustenburg	P	M006
Lehova platinum project	MW	J263

## POTASH

Potash and the Constitution	MW	J044
Central Canada will appeal to Supreme Court	MW	J080
Finance for Dead Sea project	IA	J198
COF to look at solution mining	MW	J263
Saskatchewan nationalises second potash mine	P	M241
Crisis for Complesse potash producer	P	M243

## QUARTZ

Influence of thermal treatment upon quartz	A	M105
--	---	------

## RHODIUM

New markets spur prices	MW	J157
-------------------------	----	------

## RUTILE

Fraser Island compensation	MW	J006
Kibuka shutdown	IA	J227
Sand miners: new threat	IA	J267

## SALT

Evaporating market	MW	J219
Yemen salt expansion	IA	J267
Rock-salt mining by leaching	D	M317

## SELENIUM

Selenium force majeure?	IA	J350
-------------------------	----	------

## SILVER

Silver up again	IA	J012
U.S. silver estimates	IA	J032
Indian silver again	IA	J106
Seven months silver decision	S	J147
Silver output down, consumption up in U.S.	IA	J181
Brandywine mill nears start-up	IA	J199
Silver's prospects	N	J217
U.S. silver output improves	IA	J227
Further work on Hercules	IA	J328
Refined silver stocks erratic	IA	J329
More results from Hercules	IA	J348
Northrim finds BG silver	IA	J349
Delamar on stream	IA	J370
Silver stocks down	IA	J437
Silver: more from Mexico?	IA	J454
Silver find by Comibol	IA	J472

## TIN

U.K. round-up	MW	J006
Malaysian tin operations	IA	J012
Tin makes the running	S	J014
The Bolivian question	MW	J025
Tin reaches new peaks	S	J035

Buffer stock exhausted	S	J035
ITC stocks run out	MW	J043
Tin forces on	S	J051
Bolivian processing progresses	IA	J061
Arthur River mining soon?	IA	J067
Strong start for tin	S	J070
Phangnga Bay to restart	IA	J088
Tin recovers from a fall	S	J090
Moves to save Fifth ITA	MW	J101
Cash tin breaks 16,000	S	J107
Tin developments	MW	J117
Tin marches on	S	J125
Major offshore tin mining dredge	M	J141
Bolivia: tin still king	IA	J145
No stopping tin	S	J147
Tin-technology and economics	A	M093
Prospects for stockwork tin-tungsten	A	M097
Critical meeting for the ITC	MW	J156
Tin follows the lead	S	J165
Periodic price reviews agreed	MW	J275
Tin heading for 16,000	S	J183
International Tin Symposium	IA	J201
Tin takes a toll	S	J202
ITC working party	MW	J223
recommendations?	S	J230
Tin retreats	P	M149
New tin smelter for Bolivia	MW	J243
Bolivia will ratify Fifth ITA	IA	J248
Thai tin exports improve	S	J250
Big fall for tin	S	J250
Tin losses more ground	S	J270
Tin recovers on lead from Penang	S	J293
Tin under copper's shadow	S	J312
Dundee acquires Buttsvale	IA	J328
Tin gains some ground	S	J333
Tin follows lead	S	J373
More hard bargaining for ITC	MW	J387
Deep ore at Cleveland?	IA	J393
Malaysian trends	MW	J406
Reine expansion underway	IA	J412
Dredge breakdown	IA	J412
Tin drifts	S	J416
Tin reacts to U.S. initiative	S	J438
Tin waits on the ITC	S	J456
'Oriental Musician' overdue	IA	J473
Tin continues weak	S	J477
Encouragement for Malaysian tin miners	MW	J486
Soviet tin estimates	IA	J492
Tin tugs along	S	J494
Raise hopes for U.K. tin development programme	P	M232
Mining activity in the Western World	A	M467

## TUNGSTEN

Fraser Island aftermath	MW	J118
Brazilian TiO <sub>2</sub> feasibility study	IA	J144

## TOPAZ

Topaz at Torrington	IA	J392
---------------------	----	------

## TUNGSTEN

GSA tungsten sale	IA	J023
Mt. Mulgine development?	IA	J067
Tungsten on the up again	S	J070
Tungsten - cause for anxiety	N	J113
Tin and tungsten prospects	S	J118
More tungsten from Okhove	IA	J122
Tungsten: ever upward	S	J147
Prospects for stockwork tin-tungsten	A	M097
PTA urges price agreement	IA	J181
More tungsten from GSA	IA	J181
Tungsten pause	S	J183
S. Piran plans	IA	J198
Bolivia: Estalnia expansion	IA	J198

GSA tungsten sale	IA	J229
Carrock Fell	A	M169
Okhove adds to tungsten reserves	IA	J247
Flat River expansion detailed	IA	J247
Good news for Pacific Copper	IA	J308
Minors mixed	S	J312
Li Tungsten purchase	IA	J350
Wolfram waits on Canton	S	J373
GSA sells tungsten	S	J385
Tungsten sale	S	J477

## URANIUM

Recovery plant go-ahead for Uncle Sam	MW	J005
Interest increases in Spokane	IA	J011
U.S. private enrichment project shelved	IA	J011
Hold-ups for Canadian uranium	MW	J025
Supplies for Europe	MW	J027
Shell Canada in uranium searches	IA	J031
More work for Canada	IA	J031
Cluff Lake delay	N	J041
Call for uranium	IA	J044
Algerian uranium studied	IA	J047
Mali: full scale search	IA	J047
Uranium find in Madhya Pradesh	IA	J047
Birch Island talks	IA	J047
Uranium drilling on Orkney?	IA	J047
Type Lake assay	IA	J047
Highly optimistic	IA	J062
Spanish uranium search	IA	J066
Cluff Lake standstill	IA	J066
Eldorado sticks to Port Granby	IA	J067
Randfontein uranium sales arranged	IA	J068
Saskatchewan plans reviewed	IA	J068
Uranium on Spitzbergen	IA	J068
Homestake negotiates sales	IA	J106
Saskatchewan inquiry	MW	J117
Uranium: Mexico intensifies search	IA	J121
Richard Lake reassessment	IA	J121
Japanese extend uranium hunt	IA	J121
Sherwood on schedule	MW	J138
Magnet/Enso agree	IA	J143
Work continues at Key Lake	IA	J143
Avian switches to uranium	IA	J143
Honeycomb leaching tests	IA	J143
Uranium: Japanese in NW	IA	J143
Another market for Australian uranium?	IA	J144
Uranium expansion plans for gold producer	P	M070
Uranium-from-phosphate rock plant	MW	J156
Third recovery project	IA	J162
Hydrazine Lake assays	IA	J163
Bluewater expansion	IA	J163
Australian uranium - support sought	IA	J163
Greek uranium	IA	J180
A way out for Westinghouse?	MW	J195
Hydrazine Lake assays	IA	J198
Soviet uranium stockpile	IA	J199
Arizona: uranium interest grows	IA	J225
Greek uranium search detailed	IA	J225
Assays due from Mid-East	IA	J225
Phillips to mine uranium	IA	J226
Uranium contracts for Homestake	P	M147
Geology, mining etc. of uranium ores	A	M189
Force majeure on uranium	MW	J242
Phillips uranium	MW	J244
Aid for uranium prospecting	IA	J247
More work for Geomatrix	IA	J247
Uranium accord: mixed news	IA	J248
Japan anxious on uranium/gas	IA	J249
Denison in U.S. uranium search	IA	J266
Black Hills find	IA	J266
New mine for Lucky Mc	IA	J267
Australia: no let up in uranium debate	IA	J268
Another uranium force majeure?	IA	J268
Colorado to auction uranium leases	IA	J269

Canberra acts on uranium stockpile	MW	J283
Partner for Otter	IA	J287
Canac awards contract	IA	J287
Hope sells ore	IA	J290
New Jubark/Eldorado agreement	IA	J290
Japan tests uranium from seawater	IA	J299
Good news for Japan	MW	J324
Uranium study by Dames & Moore	IA	J330
Ric Algom to spend more	IA	J348
Phillips uranium plant details	IA	J349
United Nuclear increase	IA	J349
Uranium mine for Urangessellschaft USA?	IA	J349
Pawnee - and Pawnee	IA	J350
New Japanese prospect	MW	J363
Long Lee to drill Abeta	IA	J369
Midstate programme	IA	J369
Brazil ups uranium reserves	IA	J370
Uranium shipments approved	IA	J370
Pricing problems for Ranger	IA	J371
Honeycomb: good news and bad	IA	J392
Maurice Bay find	IA	J392
Rhodesian searches	IA	J392
Fox - the Lone Ranger	MW	J405
Coal or uranium?	MW	J407
Avian authority challenged	IA	J411
Lake Kariba uranium again	IA	J411
Uncle Sam output contracted	IA	J415
Uranium aid	H	M365
Contribution of hydrogeology to metallurgy	B	M417
After Fox	MW	J432
Hydraulic Lake work resumes	IA	J435
U.S. uranium reserves	IA	J435
Lisbon Valley drilling	IA	J435
Work plan for Kamore Lake	IA	J435
Westinghouse litigation underway	MW	J467
Stampede claim	IA	J472
Uranium loading talks	IA	J474
Reaction to Fox report	MW	J487
Auslo uranium on way	IA	J491

## ZINC

More cuts at Metallgesellschaft	IA	J012
Lead, zinc forge ahead	S	J014
Halen restarts	IA	J067
Japanese zinc: not much better	IA	J067
Next stage at Nackintosh	IA	J121
Brazil: Juiz de Fora progresses	IA	J144
Zinc pessimism deepens	IA	J145
Zinc makes ground	S	J147
Zinc springs to life	S	J183
Gamsberg is feasible	MW	J210
Zinc weaker	S	J219
OECD zinc/lead statistics	IA	J289
Zinc cutback urged	IA	J310
Some strength in zinc	S	J319
Late recovery for lead and zinc	S	J333
Lead in demand, zinc improves	S	J353
Zinc tumbles on producer price cuts	S	J385
Irish zinc smelter plans announced	P	M333
Ballaclach assay	IA	J435
Zinc also falls	S	J436
Less from Monaca	IA	J474
What of the future?	MW	J487
European zinc institute	IA	J491
Passive zinc	S	J494

## ZIRCONIUM

Zirconium from tar sands?	IA	J048
Zircon: fixed price abolished	IA	J048
No end to zirconium	A	J533

## Countries

### AFGHANISTAN

Afghanistan imports equipment	IA	J310
Afghanistan coal	H	M509

### ALGERIA

Algerian uranium studied	IA	J047
Algeria plans for 1980	IA	J067
Algerian uranium	H	M205
Algeria: plant for Djebel Onk	IA	J330
Sonacem seeks hopper	IA	J394
Iron-steel talks in Algiers	IA	J475

### ANGOLA

Benguela bridge blown	IA	J163
-----------------------	----	------

### ARGENTINA

Argentina/Peru trade agreement	IA	J013
Argentina seeks bid	IA	J050
Joint venture for Argentine copper	IA	J453
Foreign participation sought for Argentine steel complex	IA	J455
Latin America: tribes charges	IA	J473
Mining at Bajo La Alumbrera?	IA	J491

### AUSTRALIA

Fraser Island compensation	MW	J006
Tectonic bore updated	IA	J011
Thatchers Soak estimate	IA	J011
Prospects for Botany Bay's coal loader	MW	J026
More work at Mt. Saddleback	IA	J031

Hammersley contract for Dravo	IA	J032
Amox out of Yilgarn joint venture	IA	J047
Aurukun again?	IA	J047
Port Kembla furnace modification	IA	J048
Biggins estimates	IA	J068
Amox-Samantha links	IA	J068
Diamond interest grows	IA	J068
Arthur River mining soon?	IA	J067
Mt. Mulgine development?	IA	J067
Pacific Copper looks for contacts	IA	J068
Competition for German Creek contract	IA	J069
Copper discovery in South Australia	P	M007
Mt. Whaleback expansion?	H	M048
Robe River expansion	H	M048
Mount Lyell cutback	H	M048
Hammersley contract	H	M048
Blue Spec progress	H	M048

Queensland coal	H	M048
Gold prospect	H	M048
Whim Creek's Shundo	MW	J079
Concern over iron ore labour	MW	J081
Diamonds in Western Australia	IA	J086
Renison/Minfields agreement	IA	J086
Sally Malar: drilling continues	IA	J087
Townsville modernisation	IA	J087
Gregory discussions	IA	J087
Mt. End out of Robe River?	IA	J089
Australian drilling	IA	J104
Agnes Clough to double output?	IA	J104
Australia: problems continue	IA	J106
Australia - dichotomy on mining	MW	J115
Fraser Island aftermath	MW	J118
Next stage at Nackintosh	IA	J121
Forrestania: new study	IA	J121
Multinational coal	IA	J122
Renison decisions awaited	IA	J122
Australian uranium: confusion grows	IA	J124
Roxby Downs assays	IA	J143

Magnet/Esso agree IA 1143  
 More partners for Eastmet IA 1143  
 Now it's Wendy Bore IA 1143  
 Honeycomb leaching tests IA 1143  
 Another market for Australian uranium? IA 1144  
 Alvest participants increase? IA 1144  
 More from Mt. Newman? IA 1144  
 Energy committee established IA 1144  
 Duchesne phosphate progress P M070  
 Promising drilling at Teutonic Bore P M073  
 Alvest go-ahead H M123  
 Jabluka plans H M123  
 HBP to upgrade furnace H M123  
 Australian mineral sands H M123  
 Uranium find for W.A. H M123  
 Australian base metals H M123  
 Nickel problems H M123  
 Lake Way estimate IA 1162  
 Australian uranium - support sought IA 1163  
 Gold assistance rejected IA 1164  
 Clouded horizons for iron and coal NW 1176  
 Peko reports IA 1180  
 Noranda in coal venture IA 1180  
 Butany Bay leader hangs fire W.A. moves to keep steel option open MW 1185  
 German Creek decided IA 1198  
 Seabed find off W.A. IA 1198  
 Gladstone smelter plans revive Evaporating market IA 1199  
 Getty at Teutonic Bore IA 1225  
 Seabank evaluation continues IA 1225  
 Kibuka shutdown IA 1227  
 Dampier tug dispute ends IA 1229  
 W.A. diamonds H M204  
 Goody Kathleen crisis H M204  
 Greenvale output drops H M204  
 Australian tin H M204  
 Brierley project H M204  
 Force majeure on uranium NW 1242  
 Mining tax policy IA 1247  
 Improvements at Mt. Isa IA 1249  
 More trouble at Pilbara IA 1249  
 More results from Rocky Downs IA 1266  
 Union Carbide at Mt. Mulgine IA 1266  
 Sand miners: new threat IA 1267  
 More from Kurri Kurri/Weipa IA 1267  
 Australia: no let up in uranium debate IA 1268  
 Queensland coal contract awarded IA 1268  
 Zircon: fixed price abolished IA 1269  
 No end to Pilbara dispute IA 1269  
 More trouble for ore carriers IA 1269  
 Canberra acts on uranium NW 1283  
 Partner for Otter IA 1287  
 MUC: Kalgoorlie testing? IA 1287  
 Pilbara: mixed news IA 1290  
 New markets for Australian coal? IA 1290  
 More for Newcastle shippers IA 1290  
 Sydney Harbour tender IA 1290  
 Good news for Pacific Copper IA 1308  
 Cons. Buttle switch IA 1309  
 Another Aussie coal agreement? IA 1311  
 Pilbara hit IA 1311  
 Australian seamen extend campaign? IA 1311  
 Bogalmy's encouraging IA 1328  
 Mareeba auction IA 1330  
 Allied Enabsha ownership change? IA 1330  
 Perth Pirie dispute IA 1331  
 Pilbara looks better IA 1331  
 Australian prospects H M209  
 Tasmanian base metals H M209  
 New Forrester study H M209  
 Australian coal H M209  
 Cockatoo Island plans change H M209  
 Cliffs Note River ups reserves IA 1348  
 Reserves at Teutonic Bore IA 1348  
 Jellibah next? IA 1348  
 Rain Creek reports IA 1348  
 Agnew accident IA 1351  
 Australian Mines Handbook IA 1351  
 Australian Tin Deposits IA 1351  
 Australia looks to ingot exports MW 1362  
 Australian diamond developments IA 1369  
 CRA options Knightvale IA 1369  
 Pricing problems for Ranger IA 1371  
 Australia remains Japan's chief source MW 1387  
 Honeycomb: good news and bad IA 1382  
 Topaz at Torrington IA 1392  
 Deep ore at Cleveland? IA 1393  
 Mt. Charlotte/Blue Spec improvements IA 1393  
 Cabelgo abandoned IA 1394  
 Norwich Park tenders shortly? IA 1394  
 Coal bargaining continues IA 1394  
 Fox - the Lone Ranger MW 1405  
 Amex/Samantha option harramble claims IA 1411  
 Underground at German Creek? IA 1411  
 Upgrading plant planned for Samerley P M334  
 Hobe River expansion H M381  
 Queensland coal contract H M381  
 Al smelter plans H M381  
 Uranium exploration H M381  
 Queensland coal H M381  
 W.A. tungsten H M381  
 Australian coal H M381  
 Fraser Island claim H M381  
 After Fox MW 1432  
 Victoria: drill results awaited IA 1436  
 Urangellach interest in 'veelirrie' IA 1436  
 Brief respite for Carr Boyd IA 1436  
 Gem search in Victoria IA 1452  
 More for Clutha IA 1455  
 More trouble in the Pilbara IA 1455  
 NSW coal: hard talks, high sales MW 1468

McArthur River pilot plant underway IA 1473  
 Beach sands decisions IA 1473  
 W. Newman strike continues IA 1474  
 Uranium loading talks IA 1474  
 Reaction to Fox report MW 1487  
 Aussie uranium on way IA 1491  
 Mt. Newman workers stay out IA 1493  
 Australian copper/gold H M513  
 Beach sands study H M513  
 Teutonic Bore reserves H M513  
 Coal refining plans H M513  
 Queensland beach sands H M513  
 Jurien Bay closes H M513

## AUSTRIA

Geomechanics meeting in Salzburg IA 1249  
 Brazil: iron ore for Austria IA 1437

## BELGIUM

Salen restarts IA 1067

## BOLIVIA

The Bolivian question MW 1025  
 COBEN's uranium programme MW 1044  
 Bolivian processing progresses MW 1061  
 Bolivia: tin still king IA 1145  
 U.K. aid for Bolivian tin H M123  
 Bolivian: Estalasa expansion IA 1198  
 Muth study progresses IA 1226  
 New tin smelter for Bolivia P M149  
 Bolivia will ratify Fifth ITA H M204  
 Bolivian report IA 1266  
 Bolivian tin H M385  
 Bolivia: mining in the Andes IA 1453  
 That support for Bolivia on tin IA 1455  
 Silver find by Comibol IA 1472  
 Latin America: bribes charges IA 1473

## BOTSWANA

Botswana diamonds H M047  
 Selibi formations overhaul IA 1227  
 Botswana diamond find H M509

## BRAZIL

Copper at Capcava IA 1011  
 CVRD profits up IA 1032  
 CVRD: another pellet plant IA 1049  
 Brazil: iron alloy expansion IA 1067  
 Brazilian chrome bound for Japan IA 1068  
 Belen complex after all? IA 1087  
 Barao de Cocais progresses IA 1122  
 From Trombetas to Paragominas IA 1124  
 Brazil: Juz de Fora progresses IA 1144  
 Brazilian TIO feasibility study IA 1144  
 Brazilian copper find H M123  
 Brazil: phosphate mine at Catalao IA 1226  
 Brazilian iron ore A 1312  
 Japan/Brazil agreement IA 1330  
 Philippine/Brazilian trade IA 1330  
 Brazil: D.H. plant uses new process P M241  
 Brazilian titanium H M209  
 Carajas reorganisation? H M345  
 Brazil: polythene find IA 1348  
 S. American rail links setback IA 1349  
 Brazil ups uranium reserves IA 1370  
 Samarco/Kobe agreement IA 1370  
 Brazilian mining symposium IA 1371  
 CVRD buys into Paragominas IA 1393  
 Brazil: new iron markets IA 1394  
 Waste heat boiler for Brazil IA 1394  
 Halt for Brazilian railway plans H M385  
 Brazilian phosphate H M385  
 Brazil: iron ore for Austria IA 1437  
 Brazilian steel loan agreed IA 1455  
 Moly find in Brazil H M511

## BULGARIA

Bulgarian targets IA 1031

## BURMA

Burmese copper plans H M127  
 Burma - more outside looking N 1241  
 Heinze expansion underway IA 1412  
 Burma changes policy H M385

## CANADA

Partner for Ego IA 1011  
 Coal in Nova Scotia IA 1012  
 Consolidated Sablem Mines IA 1012  
 Hold-ups for Canadian uranium MW 1025  
 Bleak outlook for Canadian mines MW 1027  
 More work for Canuc IA 1031  
 Cluff Lake delay IA 1031  
 Gregg River restarted IA 1032  
 BP: buy BC licences MW 1043  
 Potash and the Constitution MW 1044  
 Falconbridge at Four Corners IA 1047

Birch Island talks IA 1047  
 Tye Lake assay IA 1047  
 Work starts on gypsum mine IA 1048  
 San Goolley progresses IA 1048  
 Zirconium from tar sands? IA 1048  
 Buttan to go underground IA 1066  
 Cluff Lake standstill IA 1066  
 Toll smelting at Kitimat IA 1068  
 Zinc-pyrite project H M046  
 Gold prospect H M046  
 Alcan strike ends H M046  
 Cyprus plans H M047  
 Canadian graphite H 1047  
 GDA reviews Han report MW 1080  
 Central Canada will appeal to Supreme Court IA 1086  
 Saskatchewan plans reviewed IA 1086  
 San Goolley delay IA 1087  
 Still hopeful at Bernic Lake IA 1087  
 CVRD in Canadian coal? IA 1088  
 Ontario: help for gold miners? IA 1088  
 Closure at Wilroy IA 1088  
 Alcan's Quebec workers go back SQUM's wait, Trudeau's powder? MW 1101  
 James Bay Development extends property IA 1104  
 Kelowna agreement IA 1104  
 Flat River expansion? IA 1104  
 Joint venture at Ladue River IA 1104  
 Sage Creek progresses IA 1104  
 Saskatchewan inquiry MW 1117  
 Richard Lake reassessment IA 1121  
 Canadee sublease royalties decided IA 1122  
 Cons. Hamble remains open IA 1123  
 Copper Cliff fire IA 1123  
 Confusion in Quebec MW 1137  
 Good news for Can IA 1143  
 Work continues at Key Lake IA 1143  
 Tulemine optioned IA 1143  
 Uranium: Japanese in NW IA 1143  
 Geothermal energy in Canada IA 1144  
 Tulemine optioned IA 1146  
 Asbestos takeovers plans H M125  
 More on Mackintosh programme IA 1162  
 Asbestos confusion continues IA 1163  
 Mixed news from Sullivan IA 1163  
 Madeline closed IA 1164  
 Labrador City peace IA 1164  
 PCS and Sylvite reach agreement MW 1173  
 Goodbye, Manbridge IA 1181  
 Canada: wirebars to cost more IA 1181  
 Hydraulic Lake assays IA 1186  
 Rio Algon reports IA 1198  
 Bradway mill nears start-up IA 1199  
 Midlothian asbestos mine closed IA 1199  
 Germans at Oteuk Lake IA 1225  
 Germans at Highland Valley? IA 1225  
 Noranda/CIN agree IA 1225  
 Assays due from Mid-East IA 1226  
 Magnesium plants planned IA 1226  
 Canadian equipment for Indonesia IA 1227  
 Columbian problems H M205  
 BP coal deal H M205  
 Salt mine plans H M205  
 Buttan to go underground H M207  
 Canadian project go-stop H M207  
 Texagulf options Chance IA 1247  
 Timmins nickel/copper find IA 1247  
 Flat River expansion detailed IA 1247  
 Improvements at Trail IA 1247  
 Crumbs from Federal table MW 1263  
 Agrico-Eagle goes deeper IA 1266  
 Change in B.C. park policy IA 1267  
 Cargil: uncompetitive IA 1266  
 Canada/E.E.C. - new hope for agreement IA 1269  
 Bala: 1929 strike ends IA 1287  
 Canuc awards contract IA 1287  
 Texagulf extends holdings? IA 1287  
 New Joburg/Eldorado agreement IA 1290  
 Problem for Canada H M209  
 'Poker game' in Quebec MW 1302  
 B.C. processing subsidised? IA 1308  
 Strike at Carey Canadian IA 1311  
 North East out IA 1311  
 Government sets exploration sights MW 1324  
 Granges Plin Flon find IA 1328  
 Baker Lake protest IA 1328  
 Lynx-Canada takes action IA 1329  
 Canada: industry fears IA 1329  
 Alco out of Quintette IA 1330  
 Quebec: asbestos redundancies? IA 1331  
 Saskatchewan nationalities second potash mine P M241  
 Quebec asbestos uncertainty H M209  
 Canadian cobalt/silver H M300  
 Canadian phosphate H M300  
 Exploration joint venture H M300  
 Kerr Addition reports IA 1348  
 Brinco marks time IA 1348  
 Northern finds HG silver IA 1349  
 Whitehorse Copper reports IA 1349  
 SRM looks to Bending Lake MW 1364  
 Rutan at depth IA 1369  
 Good news from Kidd Creek IA 1369  
 Long Lac to drill Abeta IA 1369  
 Alcan: no Canadian price rise IA 1371  
 Chance renegotiation IA 1392  
 New Quebec Regian reassessment IA 1392  
 Maurice Bay find IA 1392  
 New complex for Copper Cliff IA 1393  
 Northcote work continues IA 1411  
 Kaiser Aluminum at Whitehorse IA 1412  
 Fire at Cobalt IA 1413  
 Canadian asbestos mine forced to close P M334  
 Hydraulic Lake work resumes IA 1435  
 Alcan: La Baie announced IA 1435  
 Newfoundland seeks more from offshore IA 1436  
 Magnesium plant in Quebec IA 1436  
 Thierry unprofitable IA 1436

Manitoba finds IA 1452  
 Work plan for Kasmere Lake IA 1452  
 Mcdan plans IA 1452  
 Sit-in at Quebec Iron and Titanium IA 1455  
 Tar sands add to Alberta's energy reserves MW 1465  
 Stampede claim IA 1472  
 Canex interest in Goldstream area IA 1472  
 Talks on Sam Goolley IA 1472  
 Lake Zone discussions IA 1473  
 Denison at Karin Lake IA 1491  
 New shaft commissioned at Beath Steele P M433  
 Canadian copper H M511  
 Canadian asbestos study H M511

## CENTRAL AFRICAN EMPIRE

C.A.F. diamond output still falling P M336

## CHILE

Chile: one million tonnes copper IA 1012  
 Chile: Huasco project details IA 1037  
 Chilean news IA 1037  
 Chile: coal reserves doubted IA 1180  
 New encouragement for foreign investors MW 1117  
 Chile: mine development agreed IA 1167  
 Chile: coal reserves doubted IA 1180  
 Maquada Blanca signed, El Abra to follow IA 1287  
 Enami records IA 1288  
 Mixed news from Chilean mining IA 1309  
 Loan for Huasco IA 1349  
 Encar cuts back IA 1371  
 Chilean copper H M383  
 Chile: coal diversification IA 1453  
 Chile: copper output rising IA 1453

## CHINA

German line plant for China H M135  
 Philippines sells more to China IA 1227  
 Copper consumption prospects MW 1303  
 Coal and oil for Japan? MW 1364  
 Chinese phosphate H M385  
 China buys refined aluminium? IA 1437  
 ASIA mine winders to China IA 1474  
 Sinterex in Chinese agreement IA 1491  
 Chinese pumps order IA 1493

## COLOMBIA

Cerro Matoso uncertainties MW 1025  
 Colombian iron/steel examined IA 1048  
 Colombian nickel H M046  
 Finance for Cerro Matoso IA 1087  
 Colombia: emerald licence IA 1088  
 Spanish/Colombian co-operation IA 1104  
 Emerald green? MW 1193

## CONGO REPUBLIC

Alarm and incursion MW 1221  
 Crisis for Congolese potash producer P M243

## COSTA RICA

Further work at Santa Clara IA 1031

## CUBA

Comecon executive in Cuba IA 1067  
 Cuba looks for more U.K. trade IA 1164  
/>



West phase at Ok Tedi IA J066  
 Emperor closure IA J123  
 Avian switches to uranium IA J143  
 Nodules find IA J181  
 Emperor offer IA J164  
 New stage at Ok Tedi H M204  
 Star Mountain prospects offered IA J266  
 Bougainville spending plans H M299  
 Avian authority challenged IA J411  
 P-N copper H M381  
 Frieda River agreement MW J431  
 Yandera reassessed IA J452  
 Sasnabane offered \$410 million MW J467  
 Invitation to Manus Island IA J472  
 Talks on Rennell Island IA J491  
 Rennell denial H M513  
 Nickel agreement H M513

## PAKISTAN

Seltrust at La Oroya and at Saindak IA J068  
 Pakistan finance H M048  
 Pakistan iron ore exploration approved IA J121  
 Work begins on coal washery IA J122  
 Barytes in Pakistan IA J123  
 Hazara studies progress IA J163  
 Pakistani iron ore find IA J287  
 Saindak estimated H M308  
 Minerals hunt in NWFP IA J328  
 Loan for Pakistan coal mine IA J329  
 Pakistan phosphates H M385  
 Pakistan plans another chrome plant IA J473  
 Port improvements in Pakistan IA J492

## PARAGUAY

Reynolds' reps in Paraguay soon IA J163  
 Al plant for Paraguay H M300

## PERU

Argentina/Peru trade agreement IA J013  
 Seltrust at La Oroya and at Saindak IA J068  
 Cusajone brought to production P M005  
 Cerro Verde report IA J123  
 Counting chickens? MW J115  
 Peruvian phosphate plans IA J144  
 Spanish at Bayovar IA J163  
 Interest expressed in Cerro Verde II IA J226  
 Minerals to lead export growth MW J264  
 Michiquillay decision deferred again IA J288  
 Bayovar Port contract IA J290  
 Peruvian copper H M300  
 N. Peru copper find IA J348  
 Peru/Malta agreement? IA J350  
 Talks on Quilaveco IA J369  
 Talks on Michiquillay IA J369  
 Trade agreements IA J475  
 Peru copper project H M511  
 More Peruvian copper H M511

## PHILIPPINES

Philippines: aid for gold mines IA J068  
 Benguet shutdown? H M048  
 Philippines uranium H M048  
 Steel plant for Mindanao? IA J122  
 Philippines iron project? H M127  
 Bataan reactor detailed IA J163  
 Gold: assistance approved IA J164  
 Mining at Camanlangen? IA J226  
 Philippines sells more to China IA J227  
 Philippines uranium H M207  
 Mine for Surigao? IA J267  
 Philippine export ban? IA J288  
 Philippine/Brazilian trade IA J330  
 Philippines gold aid IA M301  
 Sipalay expansion agreed IA J370  
 First shipment from Rio Tuba IA J370  
 Philippine refinery deferred IA J393  
 New Philippine copper project moves nearer P M335  
 Philippines copper H M385  
 Benguet: Baguio programme IA J453  
 Trade agreements IA J475

## POLAND

Trade with the west MW J066  
 Poland/Japan coal talks IA J049  
 Numerical analysis of rock-burets in Poland D M060  
 Poles to visit Britain IA J145  
 Polish coal sales IA J182  
 Poland: coal for finance? IA J330  
 Poland's coal and lignite mining programme A M247  
 Poles at Enugu IA J350  
 Polish coal project H M511  
 Isotope tracers for mine water tests D M530

## RHODESIA

Rhodesia - back behind square one MW J061  
 Rhodesian asbestos find IA J068  
 U.S. pressure on chrome imports MW J117

Rhodesian copper complex problems P M073  
 Rhodesian copper expansion H M127  
 Rhodesia: more for minerals IA J181  
 Rhodesian searches IA J292  
 Rhodesia: more for minerals IA J474

## ROMANIA

A crippling blow MW J173  
 Major U.S. sale to Romania MW J433

## SAUDI ARABIA

Wadi Sawawin programme IA J011  
 Saudi mining prospects H M048  
 Preussag: Red Sea search MW J180  
 Saudi Arabia seeks balanced economy N J261  
 An Arab minerals survey IA J369  
 Saudi Arabian contracts IA J370  
 Midrex at Jubail IA J491  
 Saudi seismic survey H M059  
 Saudi iron smelter H M059

## SIERRA LEONE

Problems for mining MW J304

## SOUTH AFRICA

Coal developments - 2 MW J007  
 Durban Deepport drilling IA J011  
 S.A. postpones coal mine IA J011  
 Progress at Jurgenshof IA J047  
 Earth tremor at Harties IA J049  
 Aggenys partner sought IA J066  
 Randfontein: uranium sales IA J068  
 Flexible expansion for Rustenburg P M006  
 Semis plant salvaged A M047  
 S.A. gold deaths H M047  
 Fire at Transvaal gold mine IA J088  
 Shipments from Steelpoort MW J089  
 Elandrand gains a year IA J105  
 Fire at Doornfontein IA J106  
 Snafu Sinks at Middelpoort IA J123  
 S. African gold mine dispute IA J124  
 Uranium expansion plans for Aggenys base metal project P M070  
 Palabora system of truck control A M074  
 Rock bursts A M083  
 President Steyn expansion H M127  
 Lifeline for Village Main Reef H M127  
 S.A. gold mine accident IA J164  
 Elandrand schedule advanced MW J219  
 by one year P M147  
 S. Africa's antimony H M205  
 Aid for Leslie? P M147  
 Qualified cheer from the gold price IA J248  
 S.A. mine shift work IA J249  
 Lebowa platinum project MW J263  
 More for S.A. coal IA J268  
 Rock burst at ERW IA J288  
 S.A. to control emerald sales IA J290  
 Transvaal coal find IA J308  
 S.A./Japan agreement on ferrochrome MW J325  
 Cyclone affects Palabora IA J329  
 Saldanha Bay exports mount IA J330  
 Middelpoort contract H M300  
 Coal mine plans H M301  
 S.A. expands andalusite sales IA J350  
 agreement MW J362  
 Tubatse opening IA J394  
 S.A. mine fire controlled IA J394  
 West Rand Cons. accident IA J413  
 S.A. platinum H M381  
 Sanacorp projects H M381  
 Rockburst deaths H M383  
 O'okiep base metals H M383  
 S.A. ferrochrome breakthrough IA J436  
 New S.A. chrome mine IA J436  
 Fire at Harmony IA J474  
 Fire at Western Deepgs IA J474  
 Harmony fire checked IA J492  
 S.A. interest for NW Cape base metal project P M432  
 Coalcom - a prognosis for coal A M432  
 S.A. coal find H M509  
 Giant merger H M509

## SPAIN

Spanish uranium search IA J066  
 Spanish/Colombian co-operation IA J145  
 Subisales near start-up IA J122  
 Spanish U plant H M205  
 Spanish mine start-up H M300  
 Spanish DR plane progress IA J370  
 W. German equipment for Spanish mine IA J394  
 Miners' leaching with micro-organisms D M419  
 Spain moves towards democracy N J483

## SUDAN

Sudan chrome agreement IA J047  
 More on Ingessana chrome IA J068  
 Sudanese chromite joint venture H M127

Sudanese asbestos H M204  
 Sudan contract for Hunting IA J287

## SWEDEN

Granges: further cutbacks IA J049  
 Finnish horizontal feeders M M133  
 Swedish wage talks IA J201  
 Swedish iron ore H M205  
 Romskar shutdown IA J412  
 Swedish iron ore gloom IA J436  
 Romskar back to normal IA J474  
 Atlas Copco discusses redundancies IA J493

## TAIWAN

Taiwan metal plans IA J105  
 Indian Mn/Cr for Taiwan? IA J415  
 Feed for Kaohsiung IA J415  
 Copper smelter in Taipei IA J452

## TANZANIA

Improvements at Dar IA J288

## THAILAND

Ribbons: Thai switch IA J047  
 Talks on Thai plant IA J066  
 Phangnga Bay to restart IA J088  
 Euro-Thai gets go-ahead IA J144  
 Thai zinc H M127  
 Thai zinc plant finalised? H M297  
 Thai tin deal IA J285  
 Thai tin exports improve IA J330  
 Thailand to import gold H M301  
 Thai Zinc Corporation for Thai Smelting IA J412  
 Dredge breakdown IA J412  
 Thai support for Bolivia on tin IA J455  
 Port improvements in Thailand IA J492

## TOGO REPUBLIC

Mining commission agreed IA J308

## TUNISIA

Tunisia plans less iron, more phosphate IA J199  
 Tunisia seeks phosphate buyers IA J391  
 Less from Djerissa IA J394

## TURKEY

Turkish thermal power plant IA J049  
 Turkish find IA J105  
 Turkey: more coal-fired power IA J055  
 U.S.S.R. aid for Turkey H M127  
 Turkish reserves H M207  
 Turkey buys S.A. asbestos mill IA J288  
 Mitsubishi at Elazig? IA J309  
 Major power plant for Turkey M M304  
 Uranium drilling on Orkney? IA J329  
 Iskenderun repayment IA J415  
 Turkey: mineral potential N J443  
 Turkey: barytes find IA J491

## U.K.

U.K. round-up MW J066  
 U.K. aluminium up again IA J013  
 Great Britain - reasons for optimism N J021  
 U.K. - more drilling offshore IA J031  
 Belvoir - full inquiry? IA J033  
 Uranium drilling on Orkney? IA J046  
 Belvoir exploration complete IA J066  
 Hunterdon falls behind IA J067  
 Westfield expansion IA J067  
 U.K. coal development H M047  
 U.K. tin H M047  
 Tin/tungsten prospect H M047  
 U.K. coal accidents H M048  
 Pay, productivity and the future for coal MW J101  
 Tin and tungsten prospects MW J118  
 RTZ: Highland review IA J121  
 Poles to visit Britain IA J145  
 Exploration prospects for stockwork tin-tungsten ores A M097  
 U.K. exploration H M125  
 U.K. nickel prices adjusted IA J164  
 Cuba looks for more U.K. trade IA J164  
 Professional recruitment IA J164  
 NCB: new exploration phase IA J180  
 Hopes for old U.K. mine MW J195  
 Third major new coalfield IA J198  
 NCB contract for Bows 0221 IA J200  
 Tyneside D-R agreement MW J221  
 Development possibilities for U.K. coal P M148  
 Carrock Fell A M169  
 U.K. opencast coal H M205  
 U.K. iron ore H M205  
 U.K. coal productivity problems H M205  
 Dundonian acquires Nottswale IA J328  
 Third 'new coalfield' found in U.K. P M242

U.K. exhibition and conference preview A M274

## Major rock excavations at

Disinorvic A M283  
 U.K. coal plans H M300  
 Major scheme for largest U.K. pit H M300  
 Solar energy attracts interest H M303  
 U.K. nickel adjusted IA J350  
 Seven in accord H M359  
 Pneumatic capsule pipeline M J365  
 U.K. dumptrucks impress H M389  
 Economic factors in mineral processing A M361  
 U.K. solution mine? H M383  
 More U.K. coal H M383  
 U.K. nickel refinery H M383  
 Thyristors for U.K. wind drives M M389  
 U.K.-made mine cars for Yugoslavia M M401  
 Milestone for Camberne School of Mines MW J431  
 Chamber of Mines reports MW J446  
 Minerals processing service IA J453  
 Belvoir development urged IA J491  
 Equipment for Shirebrook IA J493  
 Base boiler for U.K. tin development programme P M432

## UPPER VOLTA

W. African survey H M427  
 Upper Volta nickel find IA J439  
 West Africa study H M439

## U.S.A.

Interest increases in Spokane reservation IA J011  
 Rocky Mountain report IA J011  
 U.S. private enrichment project shelved IA J011  
 Largest underground blast? IA J012  
 Sanchers awards contracts IA J013  
 U.S. trade mission to Aegsan Behre Belbear/Intrawach venture IA J032  
 U.S. silver estimates IA J032  
 U.S. energy policy control in flux N J042  
 Nevada option for Hanna IA J047  
 Coal project studied IA J047  
 More coal from La Luz IA J049  
 U.S. minerals' value at new peak N J059  
 Chrome supply questions H M062  
 No anti-trust actions MW J063  
 Scurry-Bainbow reports IA J067  
 PMK out of Washington venture IA J068  
 U.S. flash points IA J068  
 Summa Corp. to sell mining assets IA J068  
 Henderson - an stream A M010  
 A proposal for the economic use of Government gold stocks A M033  
 Copper recovery from oxide ore at Twin Buttes, Arizona A M038  
 Copper plants shelved H M046  
 U.S. Trona H M046  
 Copper find H M047  
 U.S. uranium H M047  
 New energy warnings N J077  
 Mr. Carter's recovery package MW J079  
 Scottsboro participation talks IA J087  
 Kaiser at work in Tennessee IA J089  
 Asarco at Silver City IA J089  
 Long Canyon coal studied IA J126  
 U.S. National Forest prospect IA J121  
 More tungsten from Orkney IA J122  
 Force majeure lifted IA J124  
 Home thoughts from abroad MW J138  
 Moves to price oil and gas MW J139  
 Exxon on Navajo reservation IA -143  
 Montana applications IA J143  
 Molybdenum find? IA J143  
 U.S. coal competitiveness IA J144  
 Uranium-from-phosphate rock plant P M071  
 U.S. uranium H M123  
 Coal expansion under way H M125  
 Deep sea mining venture H M125  
 "Soluble coal" developed in U.S. N M131  
 Bluewater expansion IA J163  
 Boost for Battle Mt. output IA J163  
 Silver output down, consumption up in U.S. IA J181  
 U.S. Mint looks for copper IA J181  
 U.S. coal mine stoppages IA J182  
 U.S. stockpile debate renewed MW J193  
 Byrd Amendment repealed MW J193  
 Red Mountain work continues IA J198  
 Further cutback at Columbia Falls IA J200  
 Alcan to purchase Scottsboro smelter IA J200  
 USAW: copper stand IA J201  
 Arizona uranium interest grows IA J225  
 Bethlehem fire IA J226  
 U.S. silver output improves IA J227  
 U.S. agent for SGM IA J229  
 U.S. zinc talks IA J229  
 Uranium contracts for Homestake P M147  
 Kennecott reveals Beady interest in Peabody IA J247  
 Difficult decision for Wisconsin MW J264  
 Black Hills find IA J266  
 New mine for Lucky Mc IA J267  
 Colorado to auction uranium leases IA J269  
 Shell options more coal leases IA J287



Tin-technology and economics	A	M093
Lead/zinc into the '80s	IA	J182
Modern coal preparation	IA	J182
Exploration in rain forests	IA	J182
Mineral Processing XII	IA	J182
Geochimical exploration/		
engineering geology	IA	J182
International Tin Symposium	IA	J201
Environmental problem solving	IA	J201
Water treatment	IA	J201
Geology, mining etc. of uranium		
ores	A	M189
International Conference on		
Remote control and		
monitoring in mining, 1977	M	J246
Geomechanics meeting in		
Salzburg	IA	J249
Natural zeolites	IA	J249
Precious metals	IA	J249
Asbestos IV	IA	J249
Lead/zinc into the '80s	IA	J291
Exploration '77	IA	J291
Arab aluminum	IA	J291
Magnesium meetings	IA	J291
Natural fission reactors	IA	J291
Indonesian mining	IA	J310
U.K. exhibition and conference		
preview	A	M274
Geochimical exploration	IA	J371
Kingston meeting	IA	J371
Brazilian mining symposium	IA	J371
Lusaka details	IA	J371
Mineral law programme	IA	J371
Advancing energy technology	IA	J371
Economic factors in mineral		
processing	A	M361
AIIME meeting, Atlanta, Georgia	A	M367
INMMA - international		
exhibition	A	M371
Brno Fair	IA	J475
Iron-steel talks in Angiers	IA	J475
Statistics for Industry	IA	J475
UNIDO: aluminum smelter		
workshop	IA	J475
Prospecting in glaciated		
terrain	IA	J493
Industrial Minerals	IA	J493
Comcon: Warsaw meeting	IA	J493

## EXPLORATION

Portable core drill for rock		
sampling	M	J045
Prospects for stockwork tin-		
tungsten	A	M007
Australian and U.K. range of		
geophysical equipment	M	M133
Contract core drilling	A	M177
New drillhole logger	M	J307
Government sets exploration		
rights	MW	J324
Minerals hunt in NWFP	IA	J328
Geostat Committee	A	M279
Computerized logging system		
Gamma ray logger for mineral		
deposits	M	J434
Portable, high sensitivity		
uranium analyser	M	J489
Wireline core barrel with few		
moving parts	M	M521

## FLOTATION METHODS

Cationic silica flotation	A	M025
Problems in flotation of		
polymetallic ores	D	M527

## GEOLOGY & ORE DEPOSITS

Pocket seismograph	M	J009
U.K. rock dating service		
offered	M	J085
Rock bursts	A	M083
Carrock Fell	A	M169
Geology, mining etc. of uranium		
ores	A	M189
Geology and blasting in open		
pit	D	M227
Timna	A	M262
Geostat Committee	A	M279
Discrepancies in resources		
estimates	D	M319
Mineral deposits of East		
Siberia	D	M319
Turkish complex ore deposit	D	M321
Contribution of hydrogeology to		
metallurgy	D	M417
Yandera reassessed	IA	J452

## HEALTH & WELFARE

Dry toilet system for mine site		
use	M	J009
OSHA lead standards bearings	IA	J050
Stricter standards urged	MW	J099
Drill noise reduction	M	J177
Noise suppression and air		
cleaning in drilling	M	M515

## INSTRUMENTATION

Measuring conductivity of process		
streams without electrodes	M	J179
Vibration monitor/protection		
system	M	M300
Contactless conveyor weighing	D	M319
Ultrasonic dip stick	M	J490

## LABOUR

Japanese wage demand	IA	J013
Czech coal tragedy	IA	J013
Alcan: Arvida restarts	IA	J033
W. German stalemate	IA	J033
Dutch metalworkers strike?	IA	J033
Endako strike	IA	J050
Shawinigan still unsettled	IA	J068
U.S. flash points	IA	J068
Concern over iron ore labour	MW	J081
Alcan's Quebec workers go back	IA	J089
Strike at Karmoy	IA	J089
More FBR metalworkers settle	IA	J089
Australia: problems continue	IA	J106
Emperor closure	IA	J123
Australian uranium: confusion		
grows	IA	J124
Dutch strikes	IA	J124
S. African gold mine dispute	IA	J124
Holland: towards settlement	IA	J124
Professional recruitment	IA	J164
USAW: contract stand	IA	J164
Sunshine's ray of hope?	IA	J182
Noranda seeks contract	IA	J182
U.S. coal mine stoppages	IA	J182
Finland metalworkers strike	IA	J201
Glover - talks reopen	IA	J201
Sunshine back at work	IA	J201
WCB: recruiting drive	IA	J201
Swedish wage talks	IA	J201
Italian metalworkers strike	IA	J201
USAW: contract stand	IA	J201
Dispute stops Unior deliveries	IA	J229
Strike at Larco	IA	J229
U.S. zinc talks	IA	J229
Board responsibility	E	M145
More trouble at Pilbara	IA	J249
Pilbara: mixed news	IA	J249
Monaca agreement	IA	J269
Work continues at Montreal East	IA	J269
No end to Pilbara dispute	IA	J269
Layrma workers still out	IA	J269
Bale Comau strike ends	IA	J269
More trouble for ore carriers	IA	J269
Japanese wage demands	IA	J269
Strike at Cerro Marzon	IA	J290
Strike at Cillio Service	IA	J290
Pilbara: mixed news	IA	J290
USAW nearer settlement	IA	J311
Aluminum talks commence	IA	J311
Pilbara hit	IA	J311
Strike at Carey Canadian	IA	J311
Australian seamen extend		
campaign?	IA	J311
Montreal East out	IA	J311
USAW copper talks loom	IA	J331
Port Pirie disputes	IA	J331
Strike at Salsigne	IA	J331
Japanese stoppage	IA	J331
Cominco near strike?	IA	J331
Pilbara looks better	IA	J331
Quebec: asbestos redundancies?	IA	J331
Noranda Montreal plants settle	IA	J351
Glover strike continues	IA	J351
Kellogg strike talks	IA	J371
Japanese workers return	IA	J371
Canadian J-M settles	IA	J371
Cominco workers settle	IA	J394
Flin Flon rise approved	N	J403
Men and mining	IA	J415
Larco back	IA	J415
Port Pirie settlement?	IA	J415
Kellogg/Glover talks resumed	IA	J415
Glover goes back to work	IA	J437
Aluminum workers settle	IA	J437
More trouble in the Pilbara	IA	J455
Sit-in at Quebec Iron and		
Titanium	IA	J455
Asarco copper negotiations	IA	J474
Mt. Newman strike continues	IA	J474
U.S. strike prospects	MW	J486
Mt. Newman workers stay out	IA	J493
Atlas Copco discusses		
redundancies	IA	J493
Talks continue at Kellogg	IA	J493

World outlook for metallurgical		
coals and coke	MW	J440

## MINE HOISTING

Fully automatic South African		
installation	M	J010
Rock winder for Free State		
gold mine	M	J064
Electronic protection system		
for U.K. winder	M	M051
U.K. mine winder modernisation		
programme	M	J067
Thyristors for U.K. winder		
drives	M	M389

## MINERALOGY

Machine system for polishing		
thin rock sections	M	J285
Methods of tailings disposal	A	M345
Rock sectioning and polishing	M	M390

## MINERAL PROCESSING

Major Iraq phosphate plant		
processing	M	J028
Large wet magnetic separators	M	J064
Cationic silica flotation	A	M025
Equipment orders for U.K.		
company	M	M057
Significant thickening		
developments	M	M057
Magnetic separators for		
Yugoslavia	M	J103
An issue of mineral policy	N	J215
New U.K. company	M	J224
Carrock Fell	A	M169
Recycling dust and slurries	M	M213
Damped-out X-ray spectrometer	N	M213
New analysis tool	N	M214
The Scaerts project	L	M217
CS version of the KIVCET		
process	D	M227
German company opens U.K.		
subsidiary	M	J245
Equipment for Mexican iron ore		
plant	M	J307
Economic factors in mineral		
processing	A	M361
Caravan mill with table	M	M397
Plasma furnace for processing		
manganese nodules	D	M417
Major phosphate rock plant in		
Iraq	M	J434
Minerals processing service	IA	J453
New type of drive for		
thickeners	M	J490
Magnetic separators from		
Finland	M	M521

## NUCLEAR POWER

Bataan reactor detailed	IA	J163
-------------------------	----	------

## OFFSHORE MINING

BP's stake in offshore mining	MW	J005
Canada: offshore royalties		
decided	IA	J122
Red Sea studies	IA	J411
Newfoundland seeks more from		
offshore	IA	J436
U.K. unannounced submersible		
undergoes tests	M	J471
Bos Kalis joins offshore group	IA	J491

## OPENCAST MINING

U.K. dragline for Corby iron		
mine	M	J045
New bucket wheel reclaimers		
Earthmoving equipment in Italy	M	J065
Copper recovery from oxide ore		
at Twin Buttes, Arizona	A	M038
Massive dragline buckets for		
U.S.	M	J083
Construction equipment division		
for U.K. company	M	J103
Computerised truck control	E	M069
Palais system of truck		
control	A	M074
New quarry grabs	M	J159
Draglines for coal mining	M	J197
Modular draglines	M	J223
New mining equipment company	M	J265
Grant cranes for Polish energy		
project	M	J284
New machines for Westfield		
Improvements in Soviet open-pit	M	J307
mining	D	M317
Bucket wheel excavators for		
Spain	M	J347
U.K. dumptrucks impress	M	J389
Construction machinery for		
mining industry	A	M377
New elevating scraper		
introduced in U.S.A.	M	M399
Medium-sized motor grader from		
Japan	M	M401
Deep open pit mining problems	D	M528

## PIPELINES

Sonic control devices in		
pipeline transport	M	M065

Information requested for		
pipeline protection survey	M	J120
New basalt-based composite pipe	M	J327
Pneumatic capsule pipeline	N	J365
Alaska pipeline ready	MW	J405
Trans-Alaska oil flows	IA	J492

## PNEUMATICS & HYDRAULICS

Agreement for manufacture of		
china clay monitors	M	J326
German subsidiary of U.K.		
sealing systems co.	M	J347
W. German test installation	M	J469
Hydraulic mining shovels	A	M437

## POLITICO-ECONOMIC

Mineral development prospects	N	J001
Trade with the west	MW	J066
Great Britain - reasons for		
optimism	N	J021
U.S. energy policy control in		
flux	N	J042
ANC reviews 1976	MW	J043
Focus on Malaysia	N	J057
U.S. minerals' value at new		
peak	N	J059
Rhodesia - back behind square		
one	MW	J061
Uncertain prospects	MW	J062
Towards a national mineral		
policy	MW	J063
Algeria plans for 1980	IA	J087
So substitute	E	M003
A proposal for the economic		
use of Government gold	A	M033
stocks	MW	J079
Mr. Carter's recovery package	MW	J079
Zambia: agricultural priority	N	J097
More fuels - more metals	N	J097
Exchange rates	S	J107
Tungsten - cause for anxiety?	N	J113
Australia - dichotomy on mining	N	J115
Tin-technology and economics	A	M093
Chromium overview	N	J153
Sweet and sour for Zambia	N	J241
A crippling blow	MW	J173
Uncle meets again	N	J191
Economic crunch?	N	J192
U.S. stockpile debate renewed	N	J193
An issue of mineral policy	N	J215
Silver's prospects	N	J217
Alarm and incursion	N	J221
Board responsibility	E	M145
India: thirty years on	N	J239
Burma - more outward looking	N	J242
Mining investment study	N	J249
No encouragement for foreign		
investors	MW	J243
Long-term minerals strategy	MW	J243
Uranium accord: mixed news	IA	J248
E.R.C. stance for North-South		
meeting	IA	J249
Copper: a kind of equilibrium	N	J259
Saudi Arabia seeks balanced		
economy	N	J261
Minerals to lead export growth	MW	J264
Change in B.C. park policy	IA	J267
Economic scenario	N	J279
Crisis in Zaïre	MW	J281
Problems for Canada	N	J299
Changes for the mining industry	N	J307
New funding proposals	MW	J325
Development vacuum	E	M239
Talks progress	MW	J343
Seven in accord	N	J359
Ethiopian stepout	N	J361
Alaskan clash of interests	IA	J369
Zaire rebels in retreat	IA	J394
Dillo recaptured	IA	J412
Economic factors in mineral		
processing	A	M361
Through a glass darkly	N	J427
Turkey: mineral potential	N	J443
Disappointment in Paris	MW	J447
Confidence in gold	N	J463
Spain moves towards democracy	N	J483
One industry	E	M429
Prospects for copper	A	M463
Mining activity in the Western		
World	A	M467

## POLLUTION

Methods of tailings disposal	A	M345
What price pollution control?	IA	J394
NL industries fined	IA	J492

## POWER PLANTS

Turkish thermal power plant	IA	J049
Generating plant for Turkey	M	J065

## PROSPECTING

New gold detectors in U.K.	M	J083
U.S. National Forest prospect	IA	J121
Mathematical optimisation of		
prospecting operations	D	M138
Baker Lake protest	IA	J328
Prospecting in glaciated		
terrain	IA	J493

## PUBLICATIONS

Geology and minerals of NE		
Antrim	IA	J033

- Natural Resources
- Cadmium Abstracts
- Mineral transportation charges
- Research changes in Mineral Processing
- Adventure in Iron - Hamersley's First Decade
- Bergbau- und Hüttenwesen in südlichen Afrika
- Economics of Mineral Processing
- Politics of Environmental Reform
- Coal, Part I
- Potash: Mineral Resources
- Consultative Committee
- Exploration Geomechanics
- High Geography
- Introduction to Geophysical Prospecting
- Steel production
- U.S. uranium seminar proceedings
- Steel detailed
- Mineral Exploration, Mining and Processing Patents, 1975
- Exploration for uranium ore deposits
- Formation of uranium ore deposits
- Principles of engineering geology
- Recycling waste
- Instrumentation in the Mining and Metallurgical Industries
- Pocket book for mining engineers
- Pocket book for tunnelling engineers
- English für den Bergmann/ German for the miner
- Coal, Part II: Scientific and technical aspects
- Austrian Mineral Reserves Handbook
- World Aluminium Survey
- Australian Tin Deposits
- Unmetallized sulfides
- Flotation. A. M. Gaudin
- Memorial Volume
- World Mineral Supplies
- Environmental impact of mining
- Mining Chemicals Handbook
- Yesterday's Goldcoasts
- Remote area applications for mineral exploration

## PUMPING & DRAINAGE

Submersibles meet U.K. M & Q  
requirements  
New control valve  
West German-made pumps for  
mining industry  
Pumps for S.A. dump reclamation  
project  
Submersible mine pumps for  
China  
Air-operated transfer pump

## RECLAMATION

Recovering valuable metals  
from dumps M M389

## RESEARCH

OMC working on battery for electric car	1A	J145
Indian test successful	1A	J145
Nodules analysis equipment tested	1A	J280
Superior's new process	1A	J280
Dutch coal research	1A	J280
Mineral extraction by water jets	1A	J280
Alaskan coal study complete	1A	J280
Battelle analyzes Carter plan	1A	J330
Mineral research centre established	1A	J330
"Clean coal" project	1A	M360
Thermal shock experiments	D	M321
A coal policy	E	M321
U.S. fluidized bed combustion research	M	M390
Indian research on coal fires	M	M390

## ROCK MECHANICS

Numerical analysis of rockbursts in Poland	D	M06
U.K. manufacturer to exhibit in Venezuela	M	J14
Rock bursts	A	M08
Major rock excavations at Dinorwic	A	M28
Strata control in Norwegian mine	D	M32
Measuring movement in tunnels	M	J45

## RUBBER &amp; PLASTICS

New vulcaniser	M	M13
Non-metallic materials for mining application	M	J34

## SAFETY

Improved methanometer performance	D	M06
German gas analyser	D	M13
CH <sub>4</sub> measurement	M	M20
Agnew accident	IA	J35

## SCREENING

New wear-resistant surface from U.S.	M	J62
High capacity screens	M	J15
Screening and milling at Avennes	A	M2

### SHAFT SINKING

First two shafts for Selby	M	J120
Mine shaft drill introduced in U.S.	M	J408

## SURVEYING

Sikkim search	1A	J121
India: geological mapping target	1A	J266
Kenya: further surveying	1A	J369
Hunting's five million	1A	J411
Saudi seismic survey	1A	J491

## TAXATION & TARIFFS

Mineral taxation	IA	J123
Mining tax policy	IA	J247
Crumbs from Federal table	MW	J263
Wyoming takes more in tax	IA	J288
Canada: industry fears	IA	J322

## TRADE & STATISTICS

Bauxite/alumina - sea trade recovery	N	J134
Copper capacity monitored	IA	J164
Magnesium output - small rise	IA	J164
International survey	L	M218
Mineral output up 5%	MW	J402
Greek mineral output figures	IA	J437
Prospects for copper	A	M463
Mining activity in the Western World	A	M462

## TRANSPORT-GENERAL

New 35 ton rear dump in production	M	J046
Lift truck has tyre handler attachment	M	J069
One end-dump and bottom-dump coal hauler	M	M055
New rim and tyre system for off-highway truck	M	M056
Mine chair lift from France	M	M083
Embedded chain system	M	J118
Giant off-highway tyre from Japan	E	M102
Computerized truck control	E	J026
Palabora system of truck control	A	M070
New Soviet load-haul-dump unit	A	M137
Tough mine traction motor	M	J161
Dungella bridge blown	IA	J162
End of road progressers	IA	J184
Pickands Mather adds to fleet	IA	J242
Inclined skidway in open pit	M	J265
Morley for oceanic shippers	IA	J282
Snyder Harbour	IA	J283
Remote control vehicle	M	J329
S. American rail links network	IA	J343
BAUAG international exhibition	A	M372

New gas turbine engine  
Puncture-proof tyres  
W. German test installation  
'Oriental Musician' overdue  
Port improvements  
Efficient drilling and loading  
at U.K. colliery

## TRANSPORT-UNDERGROUND

Manriding cars for Canada  
U.K. mine cars for Yugoslavia  
Monorail suspended loco system  
Articulated dump truck  
Advanced design locos for U.K.  
coal mines  
Articulated underground dump  
trucks

## UNDERGROUND DEVELOPMENT

Tunnel borers for Venezuela  
Swedish companies' co-operation;  
U.S. company's acquisition  
New winning and loading  
equipment  
Soviet underground drilling  
methods  
Mechanized scaling  
Rail haulage at Wheel Jane,  
Cornwall  
Finland raise borers  
Block profile gauge for  
continuous miners  
Rise in construction methods  
Portable grouser mixer and pump  
New Soviet mining system  
Linings at U.K. colliery  
Iron ore mining at Moyvour  
U.K.-made mine cars for  
Yugoslavia  
Dusting machine at U.K.  
colliery  
Finland impact jammer for  
scaling and breaking  
U.K.-made, gypsum-lined  
products with many uses  
German face drill, tunnel  
New blind hole raise borer

## UNDERGROUND SUPPORTS

Shotcrete for ground support  
Wet shotcrete systems

## VENTILATION & DUST CONTROL

- \$27 million Canadian system
- 11ft diameter fans for
- Copperbelt mine
- Parachutes as temporary air
- stoppings?
- Jet pump for dust collection

## Companies and Other Public Bodies

Albitibi Asbestos  
 Albion  
 Acker Drill Co.  
 Alco-Telefunken  
 AGIP  
 Agnico-Eagle  
 Alcanex  
 Alcan Aluminum  
     IA J068      H M046  
     IA J148      IA J200  
     IA J371      IA J435  
 Allis Chalmers  
 Alston-Neyrpic  
 Aluminum Co. of America (Alcoa)  
 Amalgamated Metal Corp.  
 Amax  
     IA J066      IA J068  
     A M038      MF J110  
     IA J145      IA J291  
     MF J354      IA J411  
 Amax Coal  
 American Institute of Mining,  
     Metallurgical and Petroleum  
     Engineers (AIME)  
 American Mining Congress  
 American Smelting & Refining  
     Co. (Asarco)  
     IA J182  
     IA J351      MF J374  
     IA J474  
 Ansoero

## Anaconda

Anderson Strathelyde Ltd.	IA J200	IA J212
Anglo American		N M12
Anglo P	J071	IA J086
Anglo P	M070	IA M085
Anglo MF	J236	MF J251
Anglo IA	J350	MF J355
Anglo American Coal Corp.		MF J371
Anglo American Gold Investment		NE J320
Anglo-Transvaal		MF J212
Anglo-Transvaal	MF J053	MF J317
APCO		W J041
Arabian Geophysical & Surveying		IA J361
Arab Organisation for Mineral Resources		W J361
Arctic Gas		WM J308
Arctic of Sundval Verk		IA J221
ASA Limited		MF J071
Asbestos Corp.		N M11
		MF J313
ASEA Inc.		A M001
		IA J241
S. S. Atkins group		M M33
Atlas Consolidated		MF J231
Atlas Copco		IA J101
Atomenerg	M J196	P M61
Austral Exploration Services		N M12
Automatic Pressings		M J11
Avelling Harford		IA M23
Ascon Corp.		IA

## 1

Babbittless	A	M20
Babcock & Wilcox	M	M30
Babcock Power Engineering	N	J11
Bacharach Instrument	N	M20
Barlow Rand	MF	J01
Battelle Memorial Institute	N	M3
	M	J45
Bauxites Parnasse	JA	J26
Becman-Ritec	N	J11
Behre Dolbeer	JA	J03
Bellambi Coal	MF	J17
Bend Sin	JA	J45
Berritt Tin & Wolfram	MF	M48
Bergbau-Forschung GmbH	N	J46
Bergbau-Union AG	MF	M39
Bethlehem Copper	N	J33
Bethlehem Steel	JA	J47
BHRA Fluid Engineering	JA	J23
	N	J12
Bison Instruments	N	M36
Blaw-Knox	N	M28
Bleiberger Bergwerks-Union AG	A	M24
Boart International	C	M22
Boliden	ME	J36
Bow K&E	JA	J41
Bow K&E Westminster Group NV	JA	J41
Botswana RST	MF	J11
Bougainville Copper	MF	M19
	H	M21
Bovis Civil Engineering	JA	J20
Boyles Bros. Drilling	A	M01
Bronx Mills	MF	J20

## Brinco

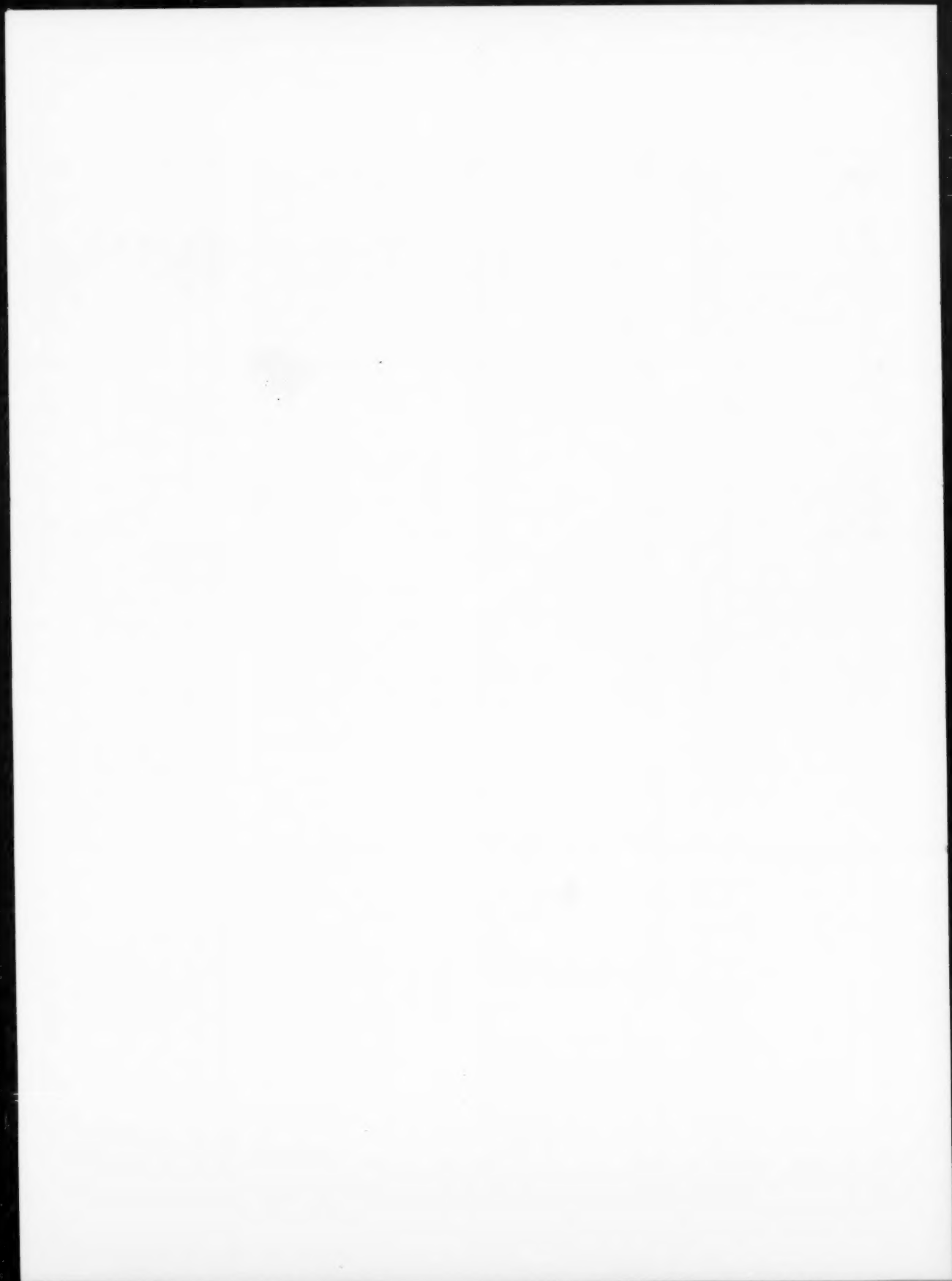
British Gypsum  
 British Lysand  
 British Petroleum  
 British Phosphate Commission  
 British Steel Corp.  
 Brockway Engineering  
 Broken Hill Associated Smelters  
 Broken Hill Prop.  
     IA J048   IA J087  
     IA J164   IA J180  
               IA J229  
 Brunswick Mining  
 BTR Weitting  
 Buckau Wolf  
 Bucyrus-Erie  
     M J197   M J223  
 Buffelsfontein  
 Bule  
 Bunker Hill Co.  
 Bureau de Recherches Geol.  
     et Minières

## C

Camflo Mines  
Canada Tungsten



Published by the Mining Journal Limited, 15 Wilson Street, London EC2M 2TR, and printed by C.P.A. (Printers) Limited,  
2 Gibbercks, Timberlog Lane, Basildon, Essex SS14 1PE.



# MINING journal VOL. 289

AND

# MINING magazine VOL. 137

# INDEX

## 1977

## JULY-DECEMBER

### CONTENTS

Metals and Minerals	Page 1
Countries	Page 3
Methods and Machines	Page 8
Companies and Other Public Bodies	Page 10

### INDEX CLASSIFICATION

A Article	L Letters	N Notes and Comments
D Mining Digest	M Methods and Machines	O Obituaries
E Editorial	ME Company Meetings	P Panorama
H Highlights	MF Mining Finance	R Book Reviews
IA Industry in Action	MW Mining Week	S Metal Markets

This combined index covers the complete editorial content of both Mining Journal and Mining Magazine. Additional copies may be obtained from the Subscription Department.

## Metals and Minerals

### ALUMINIUM

Alumina smelter for S.C.	IA J012
CVID goes it alone - again	IA J030
Venalum differences settled	IA J031
Guyana: project doubts grow	IA J031
Belizilj re-lighting	IA J052
Power cut hits Valco	IA J052
Hungarian smelter agreement	IA J052
Comalco price rise approved	S J054
Aluminium squeeze in prospect?	N J061
Alvest suffers further setback	NW J065
Indian Al plan	IA J088
IPAI output fluctuates	IA J088
La Brie award	IA J088
Higher power costs	NW J102
Own smelter for Trinidad	IA J108
Feed for Seydinehir	IA J143
French demand to rise?	IA J144
IPAI stocks down	IA J144
Taiwan buys alumina	IA J145
XM wins Korean tender	IA J145
Alumina smelter advances	IA J162
IPAI output climbs	IA J163
Higher prices for Gove	IA J163
Dubai ups aluminium target	IA J183
Venezuela buys aluminium	IA J203
Aluminium stocks swell	IA J224
China takes more aluminium	IA J225
Mine/refinery for Bolivia	IA J245
Gladstone smelter plans	IA J246
Strong position	NW J260
Japanese curb aluminium output	IA J267
Alcan price rises	IA J268
Feed for Dubai's new smelter	NW J269
Indalco costs rise	IA J295
Refinery go ahead?	IA J316
Alumina options site	IA J316
Aluminium forecast	IA J316
Korba difficulties	IA J316
Yugoslav smelter	IA J335
Caribbean smelter plans	IA J335
Less from IPAI	IA J357
Aluminium contract	S J360
Saudi Arabia to finance refinery	IA J378
Japanese aluminium outlook	IA J399
Alcoa markets technology	IA J400
Alumina project go-ahead	NW J433
Venalum sales agreement soon	IA J442
Trombetas feed for Abu Dhabi	IA J442
Valco's go-ahead?	IA J459
Alumina co-operation in Malaysia	IA J459
Alumina co-operation in India	IA J459
Japan: too much aluminium	IA J460
IPAI output rises	IA J460
More power for Aluar	IA J477
Martin Marietta approves expansion	IA J477

Yugoslav aluminium plant order	IA J479
Opposition to aluminium contract	S J481
Refinery at Golugonda	IA J500
Mostar details	IA J500
Scottish smelter sale held up	IA J501
by court order	IA J501
Hungary plans more aluminium production	IA J501
More Japanese Al cutbacks	IA J516
Sumitomo toll-smelting for Iralco	IA J517
Bad news for Japanese smelters	IA J535

### ANTIMONY

Bolivian antimony down	IA J183
Bolivian floor price for antimony	IA J203

### ASBESTOS

Amos stalled	IA J087
Cassiar improvements	IA J127
Woodreef reports	IA J201
Greek investment plans	IA J201
Quebec asbestos report?	IA J203
Quebec policy defined	NW J295
Asbestos - 1977	IA J441
Asbestos supply and demand	N J450
Asbestos Corp. prepares case	IA J477

### BAUXITE

Bauxite from Bakony	IA J031
Minerals: better outlook for Guinea?	IA J069
Jamaica: better for exports?	IA J145
Japanese buy bauxite	IA J145
CVG locates bauxite	IA J161
Loan for Mieracac Rio do Norte	IA J182
Bintan development	IA J182
New mine for Guybau	IA J202
Mineral exploration and mining in Brazil	A J247
Twin-products mine	NW J287
Bauxite in Natal?	IA J315
Cartels' strength to grow?	IA J316
Desak-2 on stream	IA J357
U.S.S.R. projects advance	IA J459
IBA agrees minimum price	NW J513
More bauxite from Bakony	IA J515

### BENTONITE

Bentonite from Cyprus	IA J357
-----------------------	---------

### CADMIUM

Cadmium recovery at Titov Veles	IA J442
---------------------------------	---------

### CHROME

Indian chrome duties	IA J014
Armo: S.A. chrome interest	IA J125
Chromium balance sheet	N J134
More Philippine chromite	IA J144
Orissa Mining chrome tender	IA J145
Chrome talks soon	IA J183
India: chromite exports limited	IA J318
U.S. chrome revival	IA J336
Albania: output to rise?	IA J357
Zhob cost estimated	IA J501

### COAL

Coal mining Bill approved	NW J007
Enaebba: coal interest	IA J030
Vent to buy U.S. coal mines?	IA J031
Coal loader project switched to Port Kembla	NW J045
Quintette's structure finalised	NW J046
Aussie equity in Oak Creek	IA J051
Switch to coal?	IA J052
Japanese coal contract	IA J052
New mines in the Vale of Belvoir proposed	NW J063
Nepal coal find	IA J068
Further work by Brameda-Teck	IA J068
CBR reports	IA J069
Elk River progresses	IA J069
Aussie coal details	IA J070
Increase in coal imports planned	NW J082
Indian coal reserves	IA J087
Coal agreement	IA J089
GMR brown coal industry	A J097
Can the Carter targets be met?	NW J103
Brighter for W. Coast Resources	IA J107
Another accident at Moatize	IA J109
Cordero dedicated	IA J109
Penn. mine doubles exports	IA J110
The risk of excessive usage	NW J121
Oaky Creek decision	IA J125
S. Korean coal interest	IA J126
Contract for Gregory coal	NW J138
Coal at Lock	IA J143
D.D.R. runs out of hard coal	IA J163
Kembla stocks mount	IA J163
U.K. opencast coal contracts	IA J165
U.S. Bureau of Mines mining research	A M115
Government freezes takeover bids for coal interests	NW J177
Approval for Westmoreland	IA J182

Onakawana feasibility study	IA J182
Japan: better for coal	IA J183
Coal: confusion in U.S.	IA J184
Coal: confusion in U.S.	IA J184
Coal hopes	NW J197
Coal plans of Napco	IA J202
Coal plans of Northern Energy Resources	IA J202
U.S. coal: forthcoming contest	IA J203
U.K. miners' pay demand	NW J241
Partners sought for Lakhta	IA J245
Bargo marks time	IA J246
Tavistock 2 progresses	IA J246
Eagle Butte impact statement filed	IA J246
Progress at Warkworth	IA J246
Go-ahead for Coloso	IA J246
Argentine coal increase planned	IA J266
Mexican energy	IA J266
Egypt to look west for coke supplies	IA J268
Development plans for U.K. coalfield	P J163
Second disaster at Moatize	P J195
Kriel colliery	A J229
Coal needs	N J285
Mine rationalisation: 1 Coals	NW J287
Bosron River work continues	IA J294
U.S. coal expansion	IA J294
Japan plans coal centre	IA J294
Coal in W. Australia	IA J295
General Mining takes holding	IA J315
Kriel breaks records	IA J316
Channala reopening soon?	IA J316
Kaiser diversifies markets	IA J317
Soviet coal discoveries	IA J334
South African coal search	IA J334
Boschmansfontein progresses	IA J334
India: coal for finance	IA J335
Barix purchased?	IA J335
Bogdolew in production	IA J336
Expansion for Zapata	IA J337
Swazi report	IA J337
Port Kembla: new controversy	IA J337
Coal grouping formed	IA J337
Coal mine commissioned	IA J337
Butterwell	A J323
East Becker mining approved	IA J374
Coal group formed	IA J379
Aussie mission in Latin America	IA J381
Prospects for Canadian coal	S J390
Growing Coseco coal production	IA J400
Salt River coal sale	IA J400
Coal export routes under examination	NW J414
Crown Neft offer	IA J419
Third Crown for GD	IA J419
Hungarian coal outlook	IA J420
More Soviet coal	IA J420
U.S. coal talks resumed	IA J421

Coal gasification study IA J421  
 Natamans acquires Badgett IA J421  
 BP buys share in Oakridge's Clarence MW J434  
 Development of lignite deposits MW J435  
 More coal from Jiu Valley IA J439  
 Quicksand at Bogdanka IA J440  
 Tunn. coal mine planned IA J440  
 Go-ahead for Australia's Gregory coal project P M497  
 Surface coal rights MW J453  
 Eneba coal interest grows IA J458  
 Further work at Tulameen IA J458  
 Progress at German Creek/Clarence IA J458  
 Israel coal mining developments IA J459  
 Spanish lignite mine threatened IA J459  
 German coal too expensive IA J461  
 S.A. coal legislation considered IA J461  
 N.S.W. coal guidelines IA J461  
 Almas seeks coal, iron IA J476  
 Soviet coal developments IA J476  
 Amcord plans more coal IA J476  
 S.A. coal concern IA J477  
 New hope for U.K. coal productivity MW J493  
 Hungary - coal prospecting continues IA J499  
 Coal plant planned IA J500  
 Paradise contract awarded IA J502  
 Polish over Bogdanka problems IA J513  
 Sukuna planning underway IA J515  
 Giant excavator at Konin IA J516  
 Hungary finds more coal, bauxite IA J534  
 Indonesia coal: good news IA J534  
 Hard coal mining ends IA J535  
 Coal washery underway IA J535  
 L.F.C. monitors coal imports IA J535  
 ARII coal for Karachi IA J536  
 Adobe buys coal lands IA J536  
 Corral-Knudson at Hayden Gulch IA J536

## COBALT

U.K. cobalt lower S J015  
 Cobalt price falls IA J070  
 Cobalt demand rises IA J183  
 U.S.B.H. looks at cobalt N J238  
 Mixed fortunes in 1977 MW J282  
 Pricing cobalt IA J400  
 Cobalt price increases IA J536

## COPPER

Copper surplus to grow N J003  
 No price agreement MW J006  
 U.S. copper strike? IA J014  
 Copper strike prospects dominate S J015  
 Copper price oscillations S J015  
 Houbts surround U.S. copper strike MW J024  
 New concentrator for Stall Lake MW J025  
 Chilean copper delivery prevented IA J032  
 Copper prices slide S J033  
 Quebrada Blanca agreement signed MW J043  
 Yaburbaud work begins IA J044  
 Sar Cheshmeh reserves upped IA J049  
 Zambian copper news IA J049  
 Tennant Creek reopening considered IA J051  
 Further Japanese stockpiling? IA J052  
 Copper drifts S J054  
 Omani copper project moves forward MW J063  
 Andacollo agreement IA J068  
 Loan for Carabi Betals IA J068  
 BCL expansion IA J068  
 Duval to cut back IA J069  
 Copper quiet S J071  
 Indian copper discovery IA J087  
 Michiquilay deferred again IA J088  
 Afghan copper study IA J088  
 Victoria to be closed IA J088  
 End for Julia? IA J089  
 Copper extraction at Hachinoe IA J089  
 Philippine/Japanese copper talks IA J089  
 Bids for Enami mines IA J089  
 U.S. copper: outlook brighter IA J090  
 Copper down S J091  
 Start-up for Carmen copper P M007  
 Truck control at Udet IA M012  
 Chile's copper resources MW J101  
 Japanese at Oshabamba IA J107  
 Cash copper drops below £700 N J111  
 North American copper woes N J117  
 Copper expansion plans MW J120  
 Ghatula plans IA J126  
 Less from Palabora IA J126  
 Copper slips further S J128  
 Kawashti to reopen MW J137  
 Copper redundancies grow MW J139  
 Copper subsidies studied IA J143  
 Japanese copper exports rise IA J145  
 Copper saga below £650 S J147  
 Black Hawk to close IA J163  
 Copper looks better S J166  
 Copper prospects for Arabian Gulf P M103  
 Manitoba mine opened and plant planned P M103  
 More Western capital for copper expansion? MW J175  
 Concessions for U.S. consumers MW J177  
 Less from Inyati IA J183  
 Copper redundancies mount IA J184  
 Copper moves ahead S J187  
 Copper incentives IA J198

Iranian developments IA J202  
 Philippine projects advance IA J202  
 Chilean copper up IA J202  
 Up through £700 S J205  
 Copper at Girilambone? IA J222  
 Goudreau assays IA J222  
 U.S. copper closures IA J224  
 Aid for Peruvian mines IA J224  
 Otjishane decision looms IA J224  
 Copper eases S J226  
 Palabora repairs complete IA J247  
 Gunpowder closed IA J247  
 Less from Twin Buttes IA J247  
 Copper makes ground S J248  
 Problems for Indian copper smelter IA J267  
 Asarco force majeure IA J267  
 Copper recovers S J270  
 Zambian copper mine reopened P M191  
 Milling problems at Palabora P M193  
 British Columbia joint venture IA J294  
 Zaire copper mine opened IA J294  
 Cyprus Pima closed indefinitely IA J295  
 Bids sought for Chilean copper mine IA J296  
 Copper crunch N J303  
 Philippine smelter start-up urged IA J315  
 Markets sought for La Caridad IA J316  
 Copper in demand IA J318  
 Copper firmer S J319  
 Three roads for copper E J319  
 U.S. copper: good news and bad IA J336  
 Hokana flooding halted IA J336  
 Sales for Cerro Colorado S J338  
 Copper stocks up again S J338  
 Continuing surplus predicted MW J349  
 Antares feasibility studies revised? IA J355  
 Chilean copper output higher IA J357  
 More money for Cudjone IA J357  
 Sar Cheshmeh agreement? IA J359  
 Copper negotiations IA J359  
 Copper retreats S J360  
 U.C. copper mine reaches tune-up P M295  
 Minolco loan approved IA J379  
 U.S. Mint: copper purchases three months copper back to C650 IA J381  
 Franco-Quebec copper search S J382  
 F.I.J. find IA J398  
 Chile opts for coal in Cu smelting IA J398  
 Quellaveco question mark IA J399  
 Copper Andis support S J403  
 Progress for Bizon IA J420  
 No progress for Boneng IA J420  
 Glogov progress IA J420  
 Copper on even keel S J423  
 Bids for Turkish concentrator IA J439  
 Copper closures in Japan IA J440  
 Copper closures in the Philippines IA J440  
 Chilean copper output up IA J440  
 Copper moves forward S J443  
 Polish copper A M500  
 German vibration mill for copper cementation D M582  
 Japanese buying helps copper S J462  
 Cerro Colorado report IA J476  
 Copper continues to improve S J481  
 Little real progress at Jakarta MW J483  
 Spanish find IA J499  
 Oman: copper start soon? IA J499  
 Continuous casting at IA J501  
 Tollville IA J501  
 Japanese copper imports in 1978 IA J502  
 Copper over £700 S J503  
 Disputada outcome awaited IA J517  
 Copper resists the pressure S J518  
 Otjishane to close MW J530  
 Japan: copper concentrates IA J535  
 tighter? IA J535  
 P.N.G. copper revenue drops IA J535  
 Sar Cheshmeh copper refinery P M605  
 Stekenjokk A M620

## DIAMONDS

Record diamond sales IA J203  
 Diamond takeover IA J203  
 Audimco completes drive IA J315  
 Diamond exports sparkle IA J318  
 Big price rise MW J393  
 Copper resists the alter IA J439  
 Less from CAE IA J477

## FLUORITE

Kalat fluorite development IA J012  
 Loan for Lost River IA J088

## FLUORSAP

Alcan: Newfoundland fluorspar closure IA J089  
 Japanese buy fluorspar IA J145  
 Fluorspar operation for sale IA J203  
 Pennine fluorspar attracts MW J374  
 Plant order IA J421

## GEMSTONES

Sri Lanka gems sale IA J225  
 Garnets in Soviet Kimberlite IA J334

## GOLD

Excitement in the OFS MW J025  
 Gold auction result S J033  
 Philippine gold plan IA J069

IMF gold auction S J111  
 Better for Mt. Charlotte IA J163  
 IMF auction: success S J166  
 Mine lease for Video IA J182  
 Gold find for Sumitomo IA J201  
 IMF sells gold S J205  
 Gold find in the Dominican Republic IA J266  
 Telfer on stream IA J266  
 Gold auction successful S J298  
 Larder Lake programme IA J315  
 Brazilian gold find IA J334  
 Further work at Hope IA J334  
 Mitsui Kusukino extends reserves IA J355  
 Philippine gold developments IA J356  
 Gold arrives in Bangkok IA J359  
 ERGO A M333  
 Expansion at Pueblo Viejo IA J379  
 Hope feasibility study slated IA J398  
 Rising U.S. gold demand IA J420  
 Royal Agassiz gold/tungsten IA J440  
 Indonesia: Marisa study? IA J458  
 Jontel deepening complete IA J460  
 Kenyon Creek JV look ahead IA J477  
 Deepening of Philippine plans more work IA J499  
 Becate Gold half-way IA J499  
 Drilling at Santa Clara IA J534

## IRON

Turkish iron ore find IA J011  
 Help for North Sea Iron IA J012  
 Aussie P.L. rejects steel cuts IA J012  
 Coto Vivaldi closure? IA J013  
 Lowering sights in the Pilbara MW J027  
 Pakistan: iron ore plans IA J031  
 IOC to lower output IA J031  
 Dam for Cockatoo Island? IA J052  
 NK takes more fines IA J053  
 Point Lisas B-E contract IA J088  
 Zouerate reinforced S J368  
 Taconite tailings project approved? P M007  
 Indian iron ore mine complete P M009  
 U.S. miners strike MW J121  
 Indian Fe output to rise IA J126  
 Lorraine iron ore plans IA J127  
 Qatar Steel advances IA J161  
 Friuli studied IA J162  
 Higher prices for Mt. Newman IA J163  
 Split price for Savage River IA J163  
 pellets IA J163  
 Iron ore reduction in Brazil D M175  
 Cameroon programme IA J182  
 Midrex at Alexandria? IA J183  
 New for Hamersley IA J185  
 New outlet for overseas iron ore? IA J199  
 Iron in Hopei IA J222  
 Hitconco plans IA J222  
 Rolling mill plans abandoned MW J242  
 Kudremukh work progresses MW J246  
 E-8 plant delays IA J246  
 Pakistan Punjab development IA J246  
 Goat pellet plant plans IA J268  
 Steel rod dumping charge IA J268  
 Mineral exploration and mining in Brazil A M245  
 Iron ore mining at least D M279  
 Karahall D M280  
 Mauritania's Guelb iron ore project MW J287  
 Samarco project inaugurated IA J294  
 Snampro pelletizing plant due IA J325  
 Steel at crisis point N J306  
 Short-term outlook for iron and steel MW J327  
 Japan: pellet oversupply? IA J336  
 On again, off again MW J351  
 Work begins on Ghana iron-steel IA J355  
 New mine in Kursk magnetic anomaly IA J356  
 Philippine plans IA J357  
 Trade talks in Rio IA J359  
 Iron ore grade determination in blastholes D M471  
 Swaziland mine closure MW J373  
 Chile: less iron ore IA J379  
 Nigerian plant ordered IA J381  
 T & T buys pellets IA J381  
 No settlement in the U.S. yet MW J394  
 W. Germans in Indian sponge plant? IA J398  
 Spanish company exports more IA J399  
 Weld Range tonnage increase IA J419  
 Moncorvo reactivation planned IA J420  
 Charcoal for Mutun IA J420  
 Signs of a settlement MW J430  
 Finance for CVRD? IA J439  
 Work progress at Khor al-Kubair IA J439  
 Strong steel - more titanium IA J440  
 Cuba builds steel plants IA J440  
 N.Z. Steel/Bonham agreement IA J442  
 Canadian looks firmer? IA J458  
 CVRD signs new agreement IA J461  
 Mt. Newman plant approved MW J473  
 Steelworks for Uruguay? IA J476  
 Yakovlev under construction IA J476  
 Switch to fines? IA J479  
 Agreed minimum prices for pig-iron? MW J495  
 Kudremukh cost escalates IA J499  
 Less from Hamersley IA J501  
 Japan to take less Indian Fe? IA J502  
 Belgian iron ore deposit D M677

## KAOLIN

Georgia: kaolin interest IA J315

## LEAD

Gays River dispute IA J011  
 Lead and zinc mirror copper S J033  
 Lead and zinc ease S J033  
 Korean lead tender? IA J053  
 Lead and zinc advance quietly S J054  
 Indian lead tender? IA J070  
 Lead marginally firmer S J071  
 Lead and zinc follow copper S J091  
 Greece: Laurium closure IA J109  
 Deer Trail reopens IA J109  
 Nadaleen encourages IA J125  
 Laurium agreement reported IA J125  
 Lead and zinc follow the trend S J166  
 Lead improvement in prospect S J187  
 Lead follows the trend S J205  
 Lead remains firm S J226  
 Alaska find IA J245  
 Lead also gives a clue S J248  
 Lead also bounces back S J270  
 Memaco lifts force majeure IA J317  
 Lead in demand S J319  
 Lead and zinc idle IA J334  
 Progress on massive low-grade lead-zinc deposit P M293  
 BC lead-zinc find on Hokaido IA J378  
 Zinc falls but lead finds support S J382  
 U.S. lead output to rise 7% says St. Joe IA J399  
 Pb/Zn search resumed IA J419  
 Lead finds some support IA J423  
 Lead looks good S J443  
 Soviet buying boosts lead S J462  
 Lead advances S J481  
 Lead edge higher S J503  
 OREB lead/zinc output IA J516  
 Lead slips S J518  
 Agency: Pb-Ag-Zn-Cu production slated P M601  
 Lead mining at Zeida in Morocco A M608

## MAGNESIUM

Magnesium forecasts IA J032  
 Israeli minerals advance IA J294

## MANGANESE

Manganese nodule composition D J177  
 Japan: lower manganese imports IA J203  
 Indian manganese progress IA J379  
 Hungarian manganese exports IA J381  
 rise? IA J478  
 Less from Cami IA J478  
 No shortage of manganese N J490

## MERCURY

Almaden ceases mercury sales IA J031  
 Mercury - surprise rise S J071  
 GSA sells mercury IA J145  
 GSA mercury sale IA J247  
 Mercury producers agree? S J319

## MOLYBDENUM

Questa out of action? IA J052  
 Mo price rises IA J109  
 New mining proposals at Questa MW J120  
 Amax molybdenum find IA J161  
 Molybdenum in demand N J193  
 Placer in Chilean molybdenum development IA J223  
 Silver fortunes in 1977 MW J262  
 Partners for Cami IA J266  
 More molybdenum for Amax IA J266  
 Molybdenum resources MW J293  
 Ore reserves at Crested Butte IA J439

## NATURAL GAS

Carter/Trudeau agreement MW J218

## NICKEL

Agnew arranges sales IA J052  
 Inco rescinds price increase MW J080  
 Nickel plant opened MW J102  
 Montclair: final studies IA J107  
 Spargoville reserves reassessed IA J107  
 Nickel free-for-all N J118  
 Japanese predict continuing oversupply MW J120  
 Japan FeNi stocks grow IA J126  
 WMC nickel cutback IA J126  
 Sukinda problems IA J223  
 Cerrito Matoso agreement IA J225  
 Nickel switch IA J246  
 Nickel outlook bleak IA J246  
 Nickel prices revision IA J268  
 Cuba to expand nickel production IA J295  
 Noranda closes Langmuir IA J316  
 Shangani warning IA J317  
 Cubaniquel lists prices IA J317  
 Inco to curtail production further MW J350  
 50% less from Shangani IA J357  
 Brazilian nickel discovery IA J378  
 Gag Island go-ahead? IA J378  
 The problems continue MW J413  
 Riddle - temporary closure A change in tactics IA J440  
 Amax and Falconbridge resume nickel pricing MW J462  
 Cuba's expansion plans MW J495

**More cuts in Canada** MW J512

**OIL**

The "price" of oil N J153

Development expenditure agreed for U.S. oil shales P M101

Japanese role in N. American tar sand IA J398

Oil mining IA J461

Storing oil in rock caverns A M541

## PHOSPHATE

Egyptian mine development IA J011

Agrico out of JPIC MW J082

Greek phosphate development IA J144

Loan for Taiba IA J144

Chemfos closure considered IA J144

Partner for Duchsow? MW J158

Grinding North African phosphate rock A M124

Florida phosphate IA J202

Hungary buys phosphate IA J203

Iraqi rail plans IA J336

Progress with phosphate strategy MW J351

Amas options phosphate properties IA J355

Egyptian discoveries IA J355

Sri Lanka: more phosphate rock? IA J357

Phosphate agreement signed IA J359

Setback for Australian phosphate producer P M297

Phosphate mine for Yugoslavia IA J378

Asafertil and after MW J411

Amas: phosphate interest? IA J476

Peru: austerity measures continue IA J500

## PLATINUM

Sustentor purchases rival platinum producer P M295

PGM prices adjusted S J382

Credit Suisse study favours platinum S J423

Little glitter MW J373

## POTASH

Lanigan to join PCS stable MW J080

Improvement for U.K. Potash mine P M102

Roadway maintenance in potash mines D M181

Potash expansion in Saskatchewan MW J241

WMT takes more potash IA J247

Potash deals IA J268

Arab Potash crystallising MW J290

Amas reaches understanding on potash IA J295

Metals and potash MW J311

Go-ahead for Sussex potash IA J356

Permination for Kibby Potash drilling MW J378

State plans potash expansion P M495

Final test for pro-ratation? MW J530

## POTASSIUM

Soviet projects advance IA J336

## RARE EARTHS

Japan seeks rare earths IA J458

## RUTILE

Beach sand shipments from Richards Bay IA J379

## SALT

Coogee refinery planned IA J162

Sri Lanka seeks salt markets IA J247

Algerian salt contract offered IA J316

Yemen salt sales IA J502

## SELENIUM

Selenium price lowered IA J268

## SILVER

Terra Mining hopeful IA J011

Silver Institute report IA J032

Silver stocks down again IA J088

Silver's prospects N J154

Admiralty Island discovery IA J161

Silver stocks decline continues IA J183

Silver steady S J187

Loan for Sam Goosly IA J202

Brandywine milling IA J202

Silver stocks up again IA J208

Road department finds ore IA J378

Silver stocks up again IA J460

Terra Mining reports IA J477

## SULPHUR

Polish sulphur mine on stream IA J400

## TELLURIUM

Japan: tellurium output grows IA J013

## TIN

Tin on the sidelines S J015

Tin firmer S J033

Tin's ups and downs S J054

ITC increases Buffer Stock MW J065

Tin features S J071

Tin: Bolivian militancy IA J088

Contract for Golder IA J070

Tin continues strong S J091

On-stream analytical system A M019

Record cash tin levels IA J115

Mt. Arthur in tin search IA J126

Razorback problems IA J126

Tin forges on S J128

Support for ITA IA J144

Pioneer details IA J144

More Thai tin smelting IA J144

Goldmin mining shortly IA J144

Tin forges on S J147

Tin miners seek changes in Malaysia MW J157

Tin miners seek changes in Thailand MW J157

Tin takes a break S J166

Tin on sunk freighter IA J184

Tin improves S J187

Tin development projects IA J198

Tin smelter S J205

Tin steady S J226

Blomfield River work continues IA J245

Laois tin takeover IA J245

Tin shows new strength S J248

Towards more tin S J258

Thai tin production IA J268

Tin reacts S J270

Tin marches on S J298

Peaceful in Hamburg MW J310

Tin by air IA J318

Tin reaction S J319

Flooding in Perak IA J336

Tin recovers its poise S J338

Thai smelting plans IA J355

Record prices for tin S J360

Some relief for tin miners MW J371

International Tin symposium IA J381

Tin also retreats but recovers later S J385

Tin production trends IA J399

No interest in \$0 GSA tin IA J401

Aid sought for Hixson IA J402

Tin - a mixed picture S J403

Pricing progress MW J413

Thailand tin contract IA J419

Tin drops back S J423

Tin remains strong S J443

Further capital investment at South Crofty, Cornwall P M495

La Paz meeting MW J454

Oakbridge: tin plans IA J459

Tin reacts S J462

Tin remains strong S J481

New market for Bolivian tin? IA J502

Tin: sign of weakness S J503

Tin in Eastern Bolivia? IA J515

Tin smelting news IA J515

Euro Thai in negotiations? IA J517

Tin falls sharply S J518

## TITANIUM

Titanium in Liguria? IA J087

Sri Lanka beach sands progress IA J336

Phosphate-titanium in S. Carolina IA J355

Stronger steel - more titanium? IA J440

## TUNGSTEN

Mentor options Victory IA J068

Tungsten: Australian developments IA J108

Wolfram lower S J128

No demand for tungstean IA J185

Tungsten interest grows IA J201

GSA tungsten unsought IA J225

Welcome North reports IA J245

Mixed fortunes in 1977 MW J262

New tungsten facility IA J267

Osborn continues expansion IA J294

Tungsten sale S J338

Wolfram firms S J338

More tungsten sold IA J381

GSA: no sale for tungsten S J462

Tungsten occurrences in Nova Scotia IA J534

Mt. Pleasant tests IA J534

## URANIUM

Uranium supply and demand N J001

Canada still blocking exports MW J005

Mail search scheduled IA J011

Chile: uranium tenders nearer? IA J011

Madagascar supplies Hydro Quebec IA J013

Ranger price agreement IA J014

Australia's warning MW J024

Chilean tender disappoints IA J030

Uranium ship stalled IA J033

Shaft sinking at Nose Rock IA J031

New Juburke warned IA J049

Algeria uranium tender IA J049

Japanese uranium enrichment plans IA J051

Australia: uranium "strings"? IA J052

Aussie government warning IA J055

France secures supplies MW J065

Canada: uranium reserves IA J068

Lake Wau reserves IA J068

Wyoming in uranium-from-copper tests IA J069

Japan-Indonesia uranium talks IA J082

Cliffminex reports IA J087

Feasibility studies for Algerian U IA J088

Uranium swap IA J089

S.W.A. uranium potential P M009

U.K. government interest in the Westinghouse lawsuits MW J101

Uranium joint venture IA J107

Prospecting at Ebagoola? IA J125

Uranium/vanadium mill planned IA J126

Australia: uranium go-ahead? MW J137

Towards a uranium industry MW J139

Work programme for New Juburke IA J143

Uranium on stream IA J144

Uranium expansion plans MW J158

Powder River basin potential IA J161

Algeria: Egrigly assays IA J161

Topaz Mountain search IA J161

Uranium mining at Lisbon, Utah A M106

Uranium supply and demand A M140

Go-ahead for Australian uranium S J173

Mooloo Downs uranium interest? IA J182

Brinex continues drilling IA J201

Union Carbide developments IA J201

Rabbit Lake find IA J222

Long Lac busy IA J222

Queensland joint venture IA J222

Sierra Pintada underway IA J223

Australian unions' opposition MW J242

Permit for Quad IA J245

Brizzard encourages IA J245

Uranium at Tallahassee IA J245

Uranium at Drama IA J245

Uranium in the Transvaal IA J245

Thai uranium hopes IA J246

Lupatards Vlei considered IA J246

Search for uranium supplies IA J266

Uranium holdings increased IA J266

More results from Roky Downs IA J266

Uranium find in Sinai IA J266

Colorado uranium S J268

Uranium mine starts production P M101

Search for uranium supplies MW J290

Cyprus Mines doubles uranium reserves IA J294

Zia mine reopening IA J295

Type cancels option IA J295

Fox is nuclear ambassador MW J311

Finance for Aggressive IA J315

Alaskan uranium activity IA J315

South Texas uranium potential IA J315

Ontario Hydro supply talks IA J317

Back to court MW J329

Midnite attraction continues IA J334

Key Lake work continues IA J335

British Island work continues IA J337

Lucky Mc contract approved IA J337

Brazil: uranium find IA J355

Uranium: Aussie port ban IA J355

Uranium authority established IA J357

Genex awards contracts IA J359

Contract for Jacobs IA J359

Sabina in uranium search IA J378

Uranium for Turkey IA J378

More Canadian uranium MW J393

Change of heart in Adelaide? IA J398

Czechoslovakia on nuclear path IA J399

Uranium safeguard problems MW J411

Victoria: uranium hunt IA J419

Soviet uranium for Japan? IA J420

Swiss watch Utah U IA J422

U.S. uranium reservations N J429

Uranium find in Germany IA J439

Greenland - uranium reserves double IA J439

Bigirly report IA J439

Uranium search in Liberia IA J458

Endeavour in Murray Basin IA J458

Kelowna uranium activity IA J458

Canadian U sales stopped IA J461

Canadian U sales started IA J461

Easier U investment? IA J461

Still in court MW J473

Minatome in Queensland IA J476

Exxon leaves Lakehead IA J476

Work to start on Aboula plant IA J476

Saskatchewan mission returns IA J476

Uranium follow-up IA J499

Stanfield reopening? IA J500

Massive uranium supply contract MW J530

Brazil: uranium reserves treble IA J534

S. Australian licences for uranium? IA J534

Rexspar plans progress IA J534

Conoco looks for uranium buyers IA J535

U.S. uranium contract cancellations IA J535

Uranium: more shipments from stockpile? IA J536

Plans for Swedish alum shale P M003

Ranger - implications of environmental factors A M051

## VANADIUM

Uranium/vanadium mill planned IA J126

## ZINC

Northair continues exploration IA J012

Cutbacks at Avonmouth/Trail IA J013

Zinc cutbacks? IA J013

Lead and zinc mirror copper S J015

Norfolk cuts back IA J031

Lead and zinc mine S J033

Overpelt output cut further IA J052

Lead and zinc advance quietly S J054

Zinc follows lead S J071

Agreement on best Macdonald IA J082

Lead and zinc follow copper S J091

Tara mill starts up P M006

Zinc's rise and fall S J111

Less from Amas Zinc IA J127

Spanish zinc cutback IA J127

Zinc slips below £300 S J128

Lead and zinc follow the trend S J147

Crandon cost estimate IA J161

Shorter terms for Cyprus Anvil IA J165

S.A. company buys into Gamsberg P M102

Cape Province progress? MW J175

Zinc recovers S J187

Zinc continues weak S J205

Less zinc from Kidd Creek IA J224

Bathurst expansion deferred IA J246

Guatemala: partner sought IA J267

Bathurst slowdown IA J267

EZ - further cutbacks IA J267

Zinc follows the leaders S J270

Expansion at Brunswick IA J270

Zinc remains weak S J298

Noranda closes Orchan IA J316

Penarroya zinc cut IA J317

Zinc makes some headway S J319

Lead and zinc idle S J338

More ore at West Macdonald IA J355

Producer price cut for zinc A J360

Tara's Navan zinc-lead mine A J360

Vieille Montagne cuts back IA J379

Zinc falls but lead finds support S J382

Zinc makes ground S J403

Finn finds IA J419

Zinc from Argentina? IA J422

Zinc follows the trend S J443

Zinc nudges £300 S J503

Tak in news again IA J515

Zinc follows copper S J518

Stekeljokk A M620

Mechanized electrolytic Zn tank house D M679

## Countries

### ABU DHABI

Abu Dhabi pays for Hunting IA J459

### AFGHANISTAN

Afghan copper study IA J088

### ALBANIA

Albanian nickel N M065

Albania: output to rise? IA J397

### ALGERIA

Algerian uranium tender IA J049



Pb/Zn search resumed IA J419  
 Shell Canada in Nova Scotia IA J419  
 Crown Nest offer IA J419  
 No pool at Elliot Lake IA J421  
 Development of lignite deposits NW J435  
 Royal Agassiz gold/tungsten plans IA J440

Snow Lake contract announced IA J442  
 State plans potash expansion P M495  
 Slow-down at Kidd Creek H M559  
 Surface coal rights NW J453  
 Ontario survey IA J458  
 Further work at Tulameen IA J458  
 Kelowna uranium activity IA J458  
 Joutel deepening complete IA J460  
 Canadian U sales stopped IA J461  
 Canadian U sales started IA J461  
 Easier U investment? IA J461  
 Seron/Quebec search IA J476  
 Saskatchewan mission returns IA J476  
 Kenyon Creek JV look ahead IA J477  
 Terra Mining reports IA J477  
 Craigmont running out of ore IA J478  
 More BC coal for Pohang IA J479  
 Associated Purcupine plans more work IA J499  
 Becate Gold half-way IA J499  
 Stanleigh reopening? IA J500  
 Sore cuts in Canada ME J512  
 Feasibility studies by Amoco IA J515  
 Sukunka planning underway IA J515  
 Massive uranium supply contract NW J530  
 Final test for positioning? NW J530  
 Tungsten occurrences in Nova Scotia IA J534  
 Re-survey plans progress IA J534  
 St. Francois test IA J534  
 Untrioy opens new conveyor belt press IA J536  
 Shaft sinking progress at Detour in Quebec P M601  
 Inco to cut nickel output H M602  
 Canadian gold H M602  
 Status quo for Thunder Bay H M602

**CENTRAL AFRICAN EMPIRE**  
 Loss from CAE IA J477

**CHILE**  
 Chile: uranium tenders nearer? IA J011  
 Chilean tender disappoints IA J030  
 Quebrada Blanca agreement signed NW J043  
 Andacollo agreement IA J068  
 End for Julia? IA J089  
 Bids for Enami Mines IA J089  
 Minimising avalanche hazards A M045  
 Chile's copper resources NW J101  
 Copper expansion plans NW J120  
 Corfo list for auction IA J185  
 Chilean copper up IA J202  
 Placer in Chilean molybdenum development IA J223  
 Noranda hesitates over IA J266  
 Andacollo IA J266  
 Chilean pelletising plant due IA J295  
 Bids sought for Chilean copper mine IA J296  
 Chile: no wage increases IA J297  
 Chile: four years on N J345  
 Chilean copper output higher IA J357  
 Chile: low iron ore IA J379  
 Molybdenum resources NW J393  
 Chile opts for coal in Cu smelting IA J398  
 Chilean copper output up IA J440  
 Placer for Chile project H M557  
 Disputada outcome awaited IA J517  
 Loan for Codelco IA J535

**CHINA**  
 Poor start to Five-Year plan NW J007  
 Chinese in Sanna IA J125  
 Iron in Hopei IA J222  
 China takes more aluminium IA J225  
 China's new priorities N J257  
 China promises more flexible trade terms IA J421  
 Chinese coal H M661

**COLOMBIA**  
 Colombian coal mine explosion IA J070  
 Colombian pit disaster H M145  
 Cerro Matoso agreement IA J225  
 Uranium authority established IA J380  
 Mine officials killed IA J380  
 Coal export routes under examination NW J414  
 Mining investment in Colombia IA J422  
 Colombian ferro-nickel H M559  
 Colombian uranium H M662

**CONGO REPUBLIC**  
 CPC liquidation NW J327

**COSTA RICA**  
 United Hearne in Costa Rica IA J201  
 Drilling at Santa Clara IA J534

**CUBA**  
 Cuba to expand nickel production IA J295

Cubanquel lists prices IA J317  
 Cuba builds steel plants IA J440  
 Cuba's expansion plans NW J495

**CYPRUS**  
 Bentonite from Cyprus IA J357

**CZECHOSLOVAKIA**  
 Czech order for Wesserhutte IA J350  
 Czechoslovakia on nuclear path IA J399

**DOMINICAN REPUBLIC**  
 Gold find in the Dominican Republic IA J266  
 Expansion at Pueblo Viejo IA J379

**DUBAI**  
 Dubai ups aluminium target IA J183  
 Feed for Dubai's new smelter NW J289  
 Dubai smelter changes H M437

**ECUADOR**  
 Belgians in Ecuador IA J476

**EGYPT**  
 Egyptian mine development IA J011  
 Egyptian phosphates H M147  
 Midrex at Alexandria? IA J183  
 Uranium find in Sinai IA J266  
 Egypt to look west for coke IA J268  
 Cairo talks IA J335  
 Egyptian discoveries IA J355  
 Egyptian salt for Cameroon NW J453  
 Egyptian uranium find H M559

**EIRE**  
 Sabina reports IA J011  
 Tara mill starts up P M066  
 Irish smelter rethink H M065  
 Irish zinc/lead prospect H M149  
 Tara reprieve IA J225  
 Soviet-Finnish continue NW J266  
 Tara's Navan zinc-lead mine A M300  
 Tara strike continues IA J380  
 Alumina project go-ahead NW J433  
 Bula gets port authority IA J439

**FINLAND**  
 Pilot plant at Sokli IA J031  
 Encouraging prospecting results NW J121  
 Finnish phosphate H M149  
 Soviet-Finnish agreement IA J267  
 Finn finds IA J419  
 LED manufacture changed IA J500  
 Flourishing industry in Finland NW J529  
 International mining co-operation H M661

**FRANCE**  
 Poland sells copper to France IA J052  
 France secures supplies NW J065  
 French team for Sudan IA J068  
 The French approach N J077  
 French quarries D M080  
 Lorraine iron ore plans IA J127  
 French demand to rise? IA J144  
 French hydrometallurgical studies D M175  
 Aquitaine prospecting permits IA J222  
 French activity on underwater nodules D M473  
 French metals search H M557  
 Large-diameter winch boring D M583  
 French-Moroccan agreement IA J535

**GERMANY (EAST)**  
 GDR brown coal industry A M037  
 D.R.G. runs out of hard coal IA J163  
 East German conveying system for potash M J221  
 Overburden conveyor bridges at Schlafendorf-Stid IA J440  
 DDR coal for raw materials H M557  
 DDR looks for raw materials IA J502  
 Hard coal mining ends IA J535

**GERMANY (WEST)**  
 West German coal H M065  
 Mine rationalisation: 1 Coals NW J287  
 Call for 35 hour week IA J297  
 Metals and potash NW J311  
 BP in Bavaria IA J334  
 W. German companies develop catalyst IA J337  
 Gulick Dobson follow-up order IA J359  
 Major German coal project H M431  
 West German Chancellor's warning NW J371  
 Uranium find in Germany IA J439  
 German uranium search H M557  
 German vibration mill for copper cementation D M582

Working platform for raises D M582  
 German coal too expensive? IA J461  
 Polish/W. German trade IA J477  
 U.S. - W. German coal accord H M661  
 Shaft sinking by boring machine H M666

**GHANA**  
 Power cut hits Valco IA J052  
 Ghana aluminium cutback H M147  
 Work begins on Ghana iron-steel IA J355

**GREECE**  
 Greece: Laurium closure IA J109  
 Laurium agreement reported IA J125  
 Greek phosphate development IA J144  
 Grinding North African phosphate rock A M124  
 Greek investment plans IA J201  
 Uranium at Drama IA J245  
 Greek mine closure H M457  
 Greece: confusion on interests IA J416  
 Greek lead/zinc H M433  
 Greek elections soon IA J402  
 Greek election result IA J440  
 Wesserhutte's Greek order IA J442

**GREENLAND (DENMARK)**  
 Marmorilik back to work IA J052  
 Greenex settles IA J380  
 Greenland - uranium reserves double IA J439

**GUATEMALA**  
 Minas de Oriente delay IA J030  
 Nickel plant opened IA J067  
 Guatemala: partner sought IA J267  
 Zinc prospect postponed H J261

**GUINEA**  
 Minerals: better outlook for Guinea? IA J069

**GUYANA**  
 Guyana: project doubts grow IA J031  
 New mine for Guyana IA J202

**HOLLAND**  
 Delfzijl re-lighting IA J052  
 Dutch smelter fire H M065

**HUNGARY**  
 Bauxite from Bakony IA J031  
 Hungarian smelter agreement IA J052  
 Hungarian aluminium H M065  
 Tels-products mine NW J287  
 Deak-2 on stream IA J357  
 Hungarian manganese exports IA J381  
 New Hungarian bauxite mine IA J398  
 Hungarian coal outlook IA J420

**INDIA**  
 Indian chrome duties IA J014  
 Mayurbhanj work begins IA J040  
 BCL expansion IA J060  
 Indian lead tender? IA J070  
 Indian copper discovery IA J087  
 Indian coal reserves IA J087  
 Indian Al plant IA J088  
 Indian iron ore mine complete P M065  
 India: aaid for Cementation IA J109  
 Northeast India programme IA J125  
 Ghatvails plans IA J126  
 Indian Fe output to rise IA J143  
 Indian harbour improvements IA J202  
 Indian imports rise IA J223  
 Iranian aid for Indian bauxite IA J223  
 Sukinda problems IA J242  
 Kudremukh work progresses NW J247  
 Indian colliery walkout IA J247  
 Problems for Indian copper smelter IA J267  
 Indian bauxite H M261  
 Indianco tests IA J295  
 More work for Indian ships IA J296  
 Channala reopening soon? IA J316  
 Korbis difficulties IA J316  
 India: chromite exports limited IA J318  
 India: coal for finance? IA J335  
 Indo-Peruvian barter considered IA J335  
 Joint venture for Union Carbide IA J336  
 Indian copper find H M437  
 Indian manganese progress IA J379  
 Gonia strike ends IA J380  
 W. Germans in Indian sponge plant? IA J398  
 India aid for Iraq rail IA J421  
 Alumina co-operation in India IA J439  
 Channala report IA J460  
 Gonia tone estimated IA J461  
 Indian changes IA J478

Switch to fines? IA J479  
 Kudremukh coal escalates IA J499  
 Refinery at Golconda IA J513  
 India: new explosives plant planned IA J515

**INDONESIA**  
 Japan-Indonesia uranium talks IA J087  
 Indonesia copper study H M067  
 Freeport takeover denied IA J143  
 Indonesia orders dredger IA J163  
 Bintan developments IA J182  
 Saudi loan sought? IA J356  
 Gag Island go-ahead? IA J378  
 Saudi Arabia to finance refinery? IA J378  
 Indonesia: Marisa study? IA J458  
 Indonesian coal: good news IA J504  
 Indonesian nickel H M656

**IRAN**  
 Sar Cheshmeh reserves upped IA J049  
 Iranian coal H M065  
 Iran smelter study H M067  
 Iranian financing agreement? IA J108  
 Sar Cheshmeh reserves H M149  
 New outlet for overseas iron ore? IA J199  
 Iranian developments IA J202  
 Arak smelter problems IA J202  
 Iranian aid for Indian bauxite IA J272  
 Sar Cheshmeh agreement? IA J356  
 Hylsa plants for Iran? IA J477  
 Sar Cheshmeh copper refinery P M065

**IRAQ**  
 Iraqi rail plans IA J536  
 Indian aid for Iraqi rail IA J421  
 Work progress at Khir al-Zahar IA J439  
 Iraqi rail project detailed IA J499

**ISRAEL**  
 Israeli minerals advance IA J094  
 Diamond exports sparkle IA J518  
 Israeli coal mining developments IA J520

**ITALY**  
 Italian Metal Workers boycott Chilean copper IA J014  
 Titanium in Liguria IA J067  
 Italian uranium search H M065  
 Help for Montedison? IA J127  
 Priuli studied IA J162  
 Italian titanium H J257  
 Italian D-H project H M431

**IVORY COAST**  
 Loan for Iahia IA J144

**JAMAICA**  
 Jamaica: better for exports? IA J145  
 Jamaican port charges to rise? IA J518  
 Feed for Jamaica agreed IA J470  
 Russians for Jamaica IA J534

**JAPAN**  
 Japan: tellurium output grows IA J019  
 Trends in Japanese trade NW J045  
 Japanese uranium enrichment IA J051  
 Japanese plans IA J051  
 Further Japanese stockpiling? IA J052  
 Japanese coal contract IA J052  
 Japan: policy for the '80s IA J068  
 Increase in coal imports NW J082  
 Copper extraction at Bachiho IA J089  
 Japanese 'black ore' find H M065  
 Go-ahead for Izumi IA J167  
 Japanese buy bauxite IA J168  
 Japanese predict continuing oversupply NW J120  
 Japan: Polio outbreak grows IA J128  
 Japan: precious metal stats. IA J144  
 Japanese copper exports rise IA J145  
 Japanese buy fluorspar IA J155  
 Japanese buy bauxite IA J145  
 MITI and stockpiles NW J178  
 Japan: better for coal IA J183  
 Cobalt demand falls IA J183  
 Japan: lower manganese imports IA J224  
 Aluminum stocks swell IA J224  
 S.A./Japan bargaining IA J247  
 Japanese plant for Vietnam IA J294  
 Japan plans coal centre IA J294  
 More Japanese aid for Yakutsk? IA J294  
 Japan: pellet oversupply? IA J336  
 Witsui Kushikino extends reserves IA J355  
 Copper negotiations IA J359  
 Japanese 'black ore' progress H M437  
 HG lead-zinc find on Hokkaido IA J378  
 Japan plans new deep sea ship IA J380  
 Japanese aluminium outlook IA J399  
 Japan looks at Caridad Copper IA J421  
 Copper closures in Japan IA J440  
 Japanese gold find H M556



## SWITZERLAND

Swiss watch Utah U 1A J422

## TAIWAN

Taiwan buys alumina 1A J145  
Typhoon damages Taiwan smelter H M261

## TANZANIA

Tanzania seeks partners 1A J049  
Tanzanian joint ventures? H M147  
Dodoma centre 1A J337

## THAILAND

SJZ: more Thai problems 1A J051  
Thai Zinc agreement signed 1A J069  
More Thai tin smelting 1A J144  
Tin miners seek changes in Thailand MW J157  
Thai uranium hopes 1A J245  
Thai tin production 1A J268  
Thai smelting plans 1A J255  
Gold arrives in Bangkok 1A J359  
Thailand tin contract 1A J419  
Tak in news again 1A J515  
Australian-Thai Tin sold 1A J536  
New Thai smelter H M661  
New Thailand find H M661

## TRINIDAD

Point Lisas D-R contract 1A J068  
Own smelter for Trinidad 1A J108  
T & T buys pellets 1A J381

## TUNISIA

Poland in Tunisian venture? 1A J143  
Strike at Sfax-Gafsa 1A J517

## TURKEY

Turkish iron ore find 1A J011  
Feed for Seydinhir 1A J143  
Turkish iron ore H M149  
Turkish contracts awarded 1A J225  
Turkish bauxite H M261  
Islamic Bank loans 1A J357  
Turkish copper H M437  
Turkish for Turkey 1A J378  
Bids for Turkish concentrator 1A J439

## UNITED ARAB EMIRATES

Further work for Hunting 1A J266  
Hunting follow-up in U.A.E. 1A J334  
U.A.E. geological study H M661

## U.K.

Coal mining Bill approved MW J007  
Help for North Sea iron 1A J012  
U.K. mineral rights problems 1A J012  
Cutbacks at Avonmouth/Trail 1A J013  
Hydrocarbon potential 1A J040  
U.K. loan for North Sea D-R 1A J051  
£2.5 million contract for coal preparation equipment 1A J053  
New mines in the Vale of Belvoir proposed MW J063  
U.K. hydraulic hose receives overseas approval 1A J070  
New winter modernisation programme 1A J070  
First European agent for U.K. company 1A J070  
U.K. winter order 1A J080  
On-stream analytical system A M019  
U.K. coal project blocked H M065  
Problems for the NCB N J098  
Bolivian aid withdrawn 1A J126  
Lynemouth loss 1A J127  
U.K. opencast coal contracts Improvement for U.K. potash mine P M102  
U.K. coal project H M149  
U.K.-Canadian coal study P M167  
Coal: confusion in U.K. 1A J184  
Acoustic canopies for Selby 1A J185  
Whittonhall public inquiry 1A J266  
NCE awards £5 million contracts 1A J268  
Development plans for U.K. coalfield P M193  
N. Ireland uranium search NCE sent to mine overseas H M257  
U.K. coal contract H M259  
U.K. International Mining Exhibition M J291  
Another Selby contract 1A J296  
Colliers contract 1A J317  
U.K. dragline for U.S. U.K. International Mining Exhibition M J331  
Jenkins supplies conveyors 1A J337  
Coal grouping formed A M323  
Butterwell 1A J337  
U.K. advanced technology mining programme A M345  
International conference on remote control A M361  
International Mining Exhibition A M371  
U.K. coal mine expansion H M431  
U.K. anthracite expansion H M433  
Loan for U.K. coal growth H M433  
Body blow for productivity MW J373

Peenine fluorapatite attracts Sabina in uranium search 1A J378  
Permitting for Whitby Potash drilling 1A J378  
RTZ appeal: judgement reserved Health and Safety Commission's report 1A J401  
1978 U.K. Public Works Exhibition M J438  
Rifiolex: Highland disappointment 1A J439  
U.K. transport accidents still cause anxiety 1A J441  
Cementation: more sinking at Selby 1A J442  
Further capital investment at South Crofty, Cornwall P M495  
U.K. D-R plant deferred H M557  
Uranium - Lords' ruling MW J454  
FSW win contracts 1A J479  
New hope for U.K. coal productivity MW J493  
Corby plant contract for FSW Amex joins the search at Hemerdon 1A J502  
Cons. Gold Fields extends Cornish interest 1A J515  
Inco: U.K. redundancies 1A J517  
Incentive schemes given go-ahead MW J529  
New division at Hobson Park 1A J536  
International Mining Exhibition - a review H M639  
U.K. coal inquiry H M661

## URUGUAY

Steelworks for Uruguay? 1A J476

## U.S.A.

Revere plans arbitration MW J005  
Reserve starts work at Mile Post Seven MW J006  
Doubts surround U.S. copper strike MW J024  
Dust-bag reports 1A J030  
Shaft sinking at Nose Rock America: economic doubts 1A J031  
Persist N J041  
Cost of pollution controls MacArthur statement filed 1A J051  
Colony battle 1A J051  
Quanta out of action? 1A J052  
U.S. copper talks 1A J053  
U.S. Congress completes surface mining bill N J062  
Tacoma differences continue 1A J063  
Closure of Grace 1A J070  
Closure of Cyprus Bruce 1A J070  
Francis studies cores 1A J087  
Victoria to be closed 1A J088  
U.S. copper: outlook brighter 1A J090  
U.S. iron ore workers to protest 1A J090  
Mixed news for U.S. lead 1A J090  
Taconite tailings project approved? P M007  
Romania-U.S. coal venture H M063  
U.K. coal process for U.S. H M063  
U.S. government interest in Brazil studies 1A J101  
Higher power costs MW J102  
Can the Carter targets be met? MW J103  
Uranium joint venture 1A J107  
Underground again at Butte? 1A J108  
Fisabik taconite studied 1A J108  
Deer Trail reopens 1A J109  
Cordoba dedicated 1A J109  
Latest on U.S. copper 1A J110  
Penn. Mine doubles exports 1A J110  
Caterpillar component sales 1A J110  
Abasloka expansion N J117  
North American copper woes N J120  
New mining proposals at Quanta Prospecting in U.S. wilderness area 1A J125  
Oracle Ridge advances 1A J125  
Warrenton smelter nearer? 1A J126  
Atlas Corp. closure 1A J126  
Matter of confidence N J133  
Copper redundancies grow MW J139  
Stockpile review complete? 1A J144  
Eastcoast on strike 1A J145  
Coal, steel disputes 1A J145  
Uranium expansion plans MW J158  
Powder River Basin potential 1A J161  
Admiralty Island discovery 1A J161  
Topaz Mountain search 1A J161  
Crandall cost estimate 1A J161  
Pipeline study proposed 1A J162  
Copperhill strike ends 1A J162  
Kilgore hospital 1A J162  
Black Hawk to close 1A J163  
Ajo: later reopening 1A J163  
Development expenditure agreed P M101  
Uranium mining at Lisbon, Utah A M106  
U.S. Bureau of Mines mining research A M115  
Handling trailing cables A M133  
Peabody divestiture H M145  
U.S. aluminum project H M145  
Florida Fluorapatite 1A J185  
Mudslide at Quanta MW J177  
Concessions for U.S. consumers Major airborne survey for uranium in U.S. M J179  
Approval for Westmoreland 1A J182  
Coal: confusion in U.S. 1A J184  
Copper redundancies mount 1A J184  
VAG exercises option 1A J201  
Rayrock extends holdings 1A J201  
Tungsten interest grows 1A J201

Coal plans of Wapco 1A J202  
Coal plants of Northern Energy Resources 1A J202  
Florida phosphate 1A J202  
Fluorapatite operation for sale 1A J203  
New Wisconsin tax 1A J203  
U.S. coal: forthcoming contest 1A J203  
Bunker Hill still unsettled 1A J224  
U.S. copper closures 1A J225  
New Madrid settlement 1A J225  
Ducks hold up mining 1A J225  
Legal changes threaten U.S. mining N J237  
Alaska find 1A J245  
Permit for Quad 1A J245  
Uranium at Tallahassee 1A J245  
Westinghouse action begins 1A J246  
D-R plant delays 1A J246  
Eagle Butte impact statement filed 1A J246  
Go-ahead for Colowyo Partner for Nubeth? 1A J246  
U.S. mine closures 1A J247  
Colorado uranium 1A J247  
Another Westinghouse settlement 1A J247  
Steel rod dumping charge H M261  
U.S. flood damage H M261  
Copper mine to close H M261  
U.S. iron ore 1A J294  
U.S. coal expansion 1A J294  
U.S. copper: good news and bad 1A J295  
Zia mine reopening 1A J295  
No saving Grace 1A J295  
Cyprus Plant closed indefinitely 1A J295  
Amador announces curtailment 1A J296  
Pilot plant contract 1A J296  
Carteret strike ends 1A J297  
Amador Brass strike 1A J297  
Carter reaffirms Ford's stockpile policy MW J309  
Follow-up work in Alaska 1A J315  
Alaskan uranium activity 1A J315  
Cities Service ceases prospecting 1A J315  
Georgia: kaolin interest 1A J315  
South Texas uranium potential 1A J316  
Refinery go ahead? 1A J317  
U.K. dragline for U.S. 1A J329  
Changing views on seabed mining 1A J334  
Midsize attraction continues 1A J334  
Oregon: interest? 1A J336  
U.S. chrome revival 1A J336  
Major scylodene find? 1A J336  
Uranium mill study 1A J337  
Lucky 36 contract approved 1A J337  
Expansion for Zapata 1A J337  
Phosphates-titanium in S. Carolina 1A J336  
Coal mine commissioned 1A J337  
Contract for Jacobs 1A J358  
SEC: coal tax interest? 1A J403  
U.S. copper cutback H M433  
U.S. copper mine in suspension H M433  
Road department finds ore 1A J378  
East Decker mining approved 1A J379  
U.S. minerals import study 1A J379  
Port Nickel output curbed 1A J379  
Revere waits on mediator 1A J380  
U.S. funds coal studies 1A J380  
U.S. Mint: copper purchases 1A J381  
No settlement in the U.S. yet MW J394  
SEC charged with dumping Salt River coal sale 1A J400  
Cerro hill by refinery strike 1A J402  
Carteret strike in mine 1A J402  
Third Crown for GP 1A J419  
Rising U.S. gold demand forecast 1A J420  
U.S. coal talks resumed 1A J421  
Coal gasification study 1A J421  
Natoma acquires Badgett 1A J421  
Copper equalization bill 1A J422  
U.S. uranium reservations N J429  
Lockheed announces new joint venture MW J434  
Ore reserves at Crested Butte 1A J439  
Tenn. coal mine planned 1A J440  
Riddle - temporary closure 1A J440  
U.S. mine closure H M559  
Raise boring at Colorado uranium operations M M569  
Airborne geophysical survey for U.S. uranium M M577  
Closure for Anasazi 1A J460  
Closure for Asarco 1A J460  
Hot Springs closure 1A J460  
Coal miners strike MW J472  
Exxon leaves Lakehead 1A J476  
Amcord plans more coal 1A J476  
Coal terminal at Houston 1A J477  
Inspiration to resume mining 1A J477  
Pines Altos study 1A J479  
More problems over Mile Post Seven MW J494  
Agreed minimum prices for imports? H J495  
Coal plant planned 1A J500  
Scottsboro smelter sale held up by court order 1A J501  
Paradise contract awarded 1A J502  
U.S. coal negotiations continue 1A J502  
Pennzoil ceases sylvinitic 1A J516  
Production 1A J516  
Sunshine goes deeper? 1A J517  
Dowry export order 1A J517  
Molybdenum still out? 1A J534  
Alec drops Scottsboro 1A J534  
U.S. uranium court cases 1A J535  
Adobe buys coal lands 1A J536  
Morrison-Knudsen at Hayden 1A J536  
U.S.-U.K. coal partnership H M662  
Amex cuts Ni output H M662

## U.S.S.R.

Finland-Soviet iron project H M065  
Soviet-made drive drilling platform D M085  
Vibrring-screen concentrator D M089  
Soviet plans for large hydraulic excavators D M175  
Improved Soviet drill-rig D M177  
Apatite mining in U.S.S.R. D M179  
New Soviet gunting machine D M277  
Iron ore mining at West Karasul N M279  
More Japanese aid for Yakutsk? 1A J294  
Soviet coal discoveries 1A J334  
Garnets in Soviet kimberlite 1A J334  
Soviet projects advance 1A J336  
New mine in Kursk magnetic anomaly 1A J356  
Soviet-Soviet agreement 1A J357  
U.S.S.R. miners H M433  
High-speed mining at Achinsk, U.S.S.R. D M471  
Improvements in Mirgalimsk mining techniques D M475  
Soviet supply contract for Argentina 1A J401  
Soviet uranium for Japan? 1A J420  
More Soviet coal 1A J420  
U.S.S.R. projects advance 1A J456  
U.S.S.R. steps up prospecting 1A J476  
Soviet coal developments 1A J476  
Yakovlev under construction 1A J476  
Russians for Jamaica H M661  
New Soviet coalfields H M661  
National system for Soviet dump trucks D M670  
Testing Soviet drill rigs H M670

## VENEZUELA

Venalum differences settled 1A J012  
CVG locates bauxite 1A J161  
Venezuela buys aluminium 1A J203  
Time/Refinery for Bolivia 1A J245  
Cartels' strength to grow? 1A J246  
Venezuelan aluminium H M442  
Venalum sales agreement soon 1A J442  
Venezuelan aluminium H M557  
Venezuelan coal H M665

## VIETNAM

Japanese plant for Vietnam 1A J268  
Vietnamese coal contract H M556

## YEMEN

Chinese in Sanaa 1A J125  
North Yemen FTP 1A J102  
North Yemen copper find H M557  
Yemen salt sales 1A J502

## YUGOSLAVIA

Dissociation effects on flotation D M087  
Yugoslav order for bowty 1A J110  
Yugoslav order for Polysius Trepcas plant expansion 1A J334  
Yugoslav smelter 1A J335  
Yugoslav nickel H M431  
Phosphate plant for Yugoslavia 1A J378  
Atlas Copco grants Yugoslavia 1A J422  
Cadmium recovery at Titov Velon 1A J422  
Yugoslav aluminium plant orders 1A J479  
Mostar details 1A J500  
Sala plant at Majdanpek 1A J517  
Yugoslav alumina H M661

## ZAIRE

Zaire copper H M147  
Zaire copper mine opened 1A J294  
Dryer for Gecamines H J359

## ZAMBIA

Zambian copper news 1A J048  
Zambian uranium find H M067  
Kansanshi to reopen MW J137  
Zambian mine accident H M147  
Zambia-Angola road link? H M147  
Zambian copper mine reopened P M101  
AGD geochemical workshop 1A J297  
Mamaco lifts force majeure 1A J312  
Zambian copper H M431  
Changing the emphasis H M431  
Mineral resources in developing countries A M533  
Zambian investment urged 1A J499



Dirty money E M493  
Comparing management in Europe D M589  
Advances for black miners MW J454  
New system for checking mine personnel M J455  
RCN announces redundancies IA J460  
Problems for Lenin IA J461  
Greia loan estimated IA J461  
Coal miners strike MW J472  
Emperor to prune workforce IA J478  
Peruvian strike postponed IA J478  
New California dispute IA J478  
Peru: strike action deferred again IA J502  
Bolivia: tineworkers protest IA J502  
U.S. coal negotiations continue IA J502  
Non-ferrous expert sought IA J517  
ACTU seeks uranium ban IA J517  
Molybdenum still out? IA J517  
Strike at Sfax-Gafsa IA J517  
Inco: U.K. redundancies IA J517  
SPCC workers return MW J529  
Incentive schemes given go-ahead E M597  
Costing turnover

## LEACHING

Solution uranium mine starts production P M191  
The San Telmo hydro-metallurgical process D M477  
Treatment of liquors in solvent extraction D M479

## MAINTENANCE & LUBRICATION

Heavy gear lubricator M J498  
Maintenance system for Soviet dump trucks D M677

## MECHANICAL HANDLING

Giant ship loader M J048

## METALLURGY

New process for U<sub>3</sub>O<sub>8</sub> and Cu extraction M J047  
U.S. contract for Burundi laterite study M J160  
French hydrometallurgical studies D M175  
Percolating porous electrodes D M279  
New copper process proved economic M J353  
Mineral resources in developing countries A M533

## MINE HOISTING

Skip winding plant for U.K. M J066  
Abrasion of wire ropes D M089  
Rinder drives M J122  
Major electro-hydraulic hoist installation M J181  
Air driven hoists M J265  
U.K. skip winding plant ordered M J450

## MINERALOGY

This section cut-off saw M J353

## MINERAL PROCESSING

Small solid/liquid separator M J028  
Dense medium separator M J083  
Separator/feeder M J085  
Continuous high gradient magnetic separator M J104  
Ball mill feed conditioning system M J179  
Processing of thermal slurry D M277  
Feeders in U.K. barytes mill V J353  
Tara's Navan zinc-lead mine EROG A M333  
High gradient magnetic separator M M449  
Rapid measurement of free moisture M M449  
New U.S. product M J438  
Mineral resources in developing countries A M533  
Agreement on U.K.-developed thickener M J455  
"Waterless" ore dressing system from Japan M J474  
On stream testwork of Bartles Crossbelt concentrator A M631  
Rotary reverberatory furnaces for Pb-Zn residues D M677  
Mechanised electrolytic Zn tank house D M679

## OFFSHORE MINING

Little progress at the U.N. NW J102  
Changing views on seabed mining NW J329  
French activity on underwater nodules D M473  
Lockheed announces new joint venture MW J434

## OPENCAST MINING

High-energy rock breakers M J009  
Loader and dozer tyres from Japan M J009

Drive gear for bucket wheel excavator M J010  
GDR brown coal industry M M037  
Soviet open pit skipways D M077  
French quarries D M089  
U.S.-West German agreement for open pit mining equipment M J159  
Marquesado open pit A M323  
Kriel colliery A M229  
Tough alloy for dragline bucket lips M J291  
Butterwell A M323  
14 yd<sup>3</sup> dragline on crawlers M J498  
New 15 yd<sup>3</sup> Manitowoc dragline announced M J514  
Stekonjok A M620

## PIPELINES

Pipeline routing NW J025  
Pipeline study proposed IA J162  
Carter/Trudeau agreement NW J218

## PNEUMATICS & HYDRAULICS

Mining pick from France M J160  
U.K.-made oil coolers M J208  
New Soviet gunniting machine D M277  
Axial pump/motors on water/oil emulsion M J314  
New Soviet hydraulic drilling package M J375

## POLITICO-ECONOMIC

Uranium supply and demand N J001  
Copper surplus to grow N J003  
Poor start to Five-Year plan MW J067  
E.E.C. hearings IA J011  
Bolivia holds talks IA J012  
Elections in P.N.G. IA J012  
Contest in Africa N J021  
America: economic doubts persist N J041  
More consistent regulations required MW J043  
Commodity stalemate attached IA J051  
Aluminium squeeze in prospect? N J061  
Japan: policy for the '80s IA J068  
The French approach IA J087  
P.N.G. election results E M003  
Commodity consensus IA J118  
E.E.C. considers guarantees N J126  
Matter of confidence N J133  
Chromium balance sheet N J134  
Australian budget IA J143  
Stockpile review complete? IA J144  
The "price" of oil N J153  
Silver's prospects N J154  
Somare returned as P.N.G. PM IA J161  
Mines and railways in Africa N J194  
Quebec moves to encourage exploitation NW J197  
IMF overview S J213  
Forecast of mining industry resurgence MW J217  
Bill in U.S. NW J217  
Legal changes threaten U.S. mining N J237  
China's new priorities N J257  
Provincial Mines Ministers meet NW J267  
Fraser Island compensation NW J262  
Coal needs N J285  
Quebec's new mining laws NW J289  
Copper crunch N J305  
Three roads for copper N J325  
Commonwealth view NW J330  
Chile: four years on Bolivian mining fund established IA J356  
Core value N J389  
Changing the emphasis N J370  
Western exchange problems N J370  
West German Chancellor's warning MW J371  
Moscow investment N J389  
Unlucky thirteen NW J395  
Greek elections soon IA J402  
Mining investment in Colombia IA J422  
Strength in diversification NW J433  
Green election result IA J440  
No joy at Geneva E M403  
Dirty money A M541  
Storing oil in rock caverns N J449  
New hope for Rhodesia N J469  
No joy at Geneva NW J472  
PNG proposes new mining laws Setback in Burma? IA J478  
Indian strikes IA J478  
Australian election campaigning Australia: Fraser retains the reins IA J478  
Zambian investment urged N J489  
Energy holds the stage N J509  
Independence for Boputhatswana NW J513  
Difficult days in Norway N J513  
Mining's mixed fortunes in 1977 N J525  
Australian ministry changes IA J535  
Costing turnover E M597  
Ranger - implications of environmental factors A M651

## POLLUTION

Environmental problems of tailings disposal A M025  
Pollution control exhibitions IA J225

## PROSPECTING

Geologist's versatile field tool M J457

Gold field mercury detector for exploration work M J475  
U.S.S.R. steps up prospecting IA J476

## PUBLICATIONS

Magnesium forecasts IA J032  
Volcanic processes in ore genesis IA J032  
Silver Institute report IA J032  
Hydrothermal uranium deposits R M053  
Philip Dawson's Kimberley R M053  
Towards a zinc policy for the Province of Ontario R M053  
The Australian Mines Handbook 1976/77 R M053  
Remonto de Mines et Carrieres 1977 R M053  
Geology of alternate energy resources in the South-Central United States R M157  
Gateway to Siberian resources R M157  
Recommended practice for troughed belt conveyors R M157  
Proceedings, 2nd Industrial Minerals International Congress IA M157  
Canadian handbook IA J185  
Non-ferrous statistics IA J185  
Magnesium guide IA J185  
Malaysian tin IA J185  
Exploratives agents circular I.M.P. data optimistic IA J269  
USIM on cobalt IA J269  
Copper statistics IA J269  
Class laws IA J269  
E.E.C. phosphate report IA J269  
Kalahari wealth R M225  
Explosives for coalfields 1977 R M225  
Bureau of Mines research 1976 R M225  
Investigaciones Mineras y Metalurgicas 1976 R M441  
Grundlagen des Meeressbergbau R M441  
Rock slope engineering R M441  
Explosives for engineers R M443  
Manual of applied geology for engineers R M443  
Mineral Industry of Sri Lanka IA J422  
Asbestos - 1977 IA J441  
Mineral development policies IA J441  
U.K. transport accidents still cause anxiety IA J441  
Guide to mineral and earth resources IA J441  
Mineral Industry Costs IA J478  
Applied Salt-rock Mechanics R M548  
Geostatistical Ore Reserve Estimation R M548  
Marine Manganese Deposits R M548  
Copper: Its Geology and Economics R M548  
Sulfur, Energy and Environment R M549  
Economic Analysis of Coal Supply R M549  
Mineral Crushing and Grinding Circuits R M549  
U.K. coal history IA J478  
Tin conference proceedings IA J478  
Report on Westat IA J478  
NCD mining environment bulletin IA J537  
SO<sub>2</sub> removal research report IA J537  
S.E. Scotland survey IA J537  
U.S. coal transportation study IA J537  
Pocket book for mining engineers R M665  
Pocket book for tunnelling work R M665  
Year book for mining, energy, oil and chemicals R M665  
Proceedings of 3rd International Symposium on Jet cutting technology R M665  
Limestones and caves of the Peak District R M665  
Geology of California R M665  
The economics of Kentucky coal R M665

## PUMPING & DRAINAGE

Handling coal washery effluent M J010  
Milestone for Swedish pumps M J105  
Close-coupled units M J122  
Axial flow pumps M J159  
U.K. company development M J514

## RECLAMATION

Tailings potential E M099  
Alcoa/ERDA study A M213  
ERGO A M333  
Zn-Pb recovery from ferrous waste M M455  
Agreement on metal recovery technique M J415

## RESEARCH

U.S. Bureau of Mines mining research A M115  
Dodoma centre IA J337  
Alcoa/ERDA study IA J337  
W. German companies develop catalyst IA J337  
Japan plans new deep sea ship IA J380  
ACRL pilots coal conversion process IA J401  
Oil mining IA J401

## ROCK MECHANICS

Strata control in Polish Cu mines D M089

New scaler for loose rock M J219  
Canadian roof bolting unit M J243  
Polish rockburst research D M280

## ROOF SUPPORTS

Powered supports for Spanish longwalls IA J070

## RUBBER & PLASTICS

Loader and dozer tyres from Japan M J009  
Embedded chain tyres M M075  
U.K. abrasion-resistant urethane service M J181

## SAFETY

Minimising avalanche hazards A M045  
Foam for fire-fighting in downcast shaft D M087  
Muzambiqui mine inquiry IA J127  
U.S. Bureau of Mines mining research A M115  
Helmet protects against radiant heat M J180  
Black Friday for Transvaal IA J203  
Standards deviation E M189  
Second disaster at Boszile P M195  
Polish mine accident IA J250  
High concentration methanometer IA J417  
Surface to underground mine rescue drilling M J437  
U.K. transport accidents still cause anxiety IA J415  
Chasmolet report IA J416

## SCREENING

Vibrating-screen concentrator D M089  
Photometric ore sorting M J141  
Vibrating screen separator E J475  
Series of universal screens from Finland M J033

## SHAFT SINKING

New machine undergoes tests in U.S. M J083  
Contract awarded for Sibir M J219  
Shaft sinking machine M M263  
Raise boring at Colorado uranium operations M M509  
Shaft sinking at Betsur P M001  
Shaft sinking by boring machine M M066

## SURVEYING

Northeast Indian programme IA J125  
Sophisticated surveying instrument M M165  
Major airborne survey for uranium in U.S. M J179  
Kenya survey IA J182  
Botswana survey results IA J245  
Alignment laser for mining S J331  
Integrated data acquisition system M M435  
Electronic notebook speeds work M J438  
Ontario survey IA J458

## TAXATION & TARIFFS

Philippines: export tax plea IA J053  
New Wisconsin tax IA J203  
Australian resources tax IA J203  
Australia: prospecting stimulus IA J422  
Copper equalisation bill IA J422

## TEST EQUIPMENT

Hose for self-tunnelling pressuremeter M M450  
Ultrasonic dip stick measures levels M M450

## TRADE & STATISTICS

Trends in Japanese trade MW J045  
Japan: precious metal stats. IA J144  
Indian imports rise IA J202  
The Charter Analysis MW J215  
Continuing surplus predicted MW J349  
China promises more flexible trade terms IA J421

## TRANSPORT-GENERAL

German engine for U.K. mine use M J048  
Fully-electronic motor truck scale M J048  
Large capacity U.S. coal hauler M J066  
Mobile field office M J067  
Truck control at Medet M M012  
Embedded chain tyres M M075  
Soviet open pit skipways M M077  
New 60 t. ton truck from U.S. M J105  
Truck box interiors M J142  
Indian harbour improvements IA J143  
Rough Hill at Saldanha IA J169  
Sixty ton off-highway truck M M169  
Roadway maintenance in potash mines D M161

Mr. Newman railway spending IA J194  
Tin on sunk freighter IA J184  
Mines and railways in Africa N J194  
Refuse hauler for coal preparation plants M J219  
Pneumatic tyres for mine vehicles D M277  
Lightweight truck bodies M J293  
More work for Indian ships IA J296  
Tin by air IA J318  
Jamaican port charges to rise? IA J318  
150-ton coal hauler introduced M M451  
End dump truck differs from conventional LHD systems M J396  
Simple removal and installation of truck transmissions M J397  
West African discussions IA J421  
Diesel power A M511  
Algerian rail project study IA J476  
Coal terminal at Houston? IA J477  
Iraqi rail project detailed IA J499  
Refuse hauler for coal preparation M M669

Crawler transporter for open pits M M669  
**TRANSPORT-UNDERGROUND**  
U.K. rack and pinion loco M J047  
Low profile mine trucks M J085  
New LHD for South Africa M J159  
Underground articulated vehicle line M M165  
Introduction of trackless equipment M J243  
New aerial manbasket M M263  
Versatile utility truck range M J314  
Swedish diesel LHD has double bucket M J331  
Graders for mine use M J333  
U.K. battery driven underground vehicles M J353  
Personnel carrier/emergency vehicle M J475  
French maintenance vehicle M J498

## UNDERGROUND DEVELOPMENT

High-energy rock breakers M J009  
Storing gas in rock chambers M J047  
Aerial manbasket M J083  
Boring machine M J123  
Power supplies M J141  
High lift vehicle M J159  
Uranium mining at Lisbon, Utah A M106  
U.S. Bureau of Mines mining research A M115  
Expansion at Brunswick A M198  
Kriel colliery A M228  
Giant tunnel boring machine M M263  
U.K. units for S.A. gold mine M J293  
Tara's Navan zinc-lead mine A M300  
Picks for abrasive rocks M J377  
Twinboom aerial platform M J397  
Polish copper A M500  
Storing oil in rock caverns A M541  
Small diameter tunnel borer M M573  
Working platform for raises D M582

Hard rock, water-jet assisted tunnelling machine M J497  
Stekonjokk A M620

## UNDERGROUND SUPPORTS

Roof supports for U.S. IA J089  
New shotcreting machines M M163  
Advanced design roof supports M J416

## VENTILATION & DUST CONTROL

Ultrasonic microvising for size analysis of dusts D M179  
Study on practices in Canadian uranium mines F J214  
Changeover of major mine fan system in Zambia M J221  
Dust collection M J244  
Monitoring airborne dust IA J381

## Companies and Other Public Bodies

A	Acker Drill Co.	M J457	M J085	Bellambi Coal	MF J113	Combol	IA J089	IA J420	IA J031	Endeavour Oil	IA J125
	ACS Engineering Sales Ltd.	MF J036	M J331	Belliss & Morcom	IA J409	Cominco	IA J089	IA J420	IA J535	Endeavour Resources	IA J536
	Alcoa of Australia	IA J109	M J397	Bendix International	M J497	Compa	MF J035	MF J035	IA J012	Energy Resources Corp.	IA J296
	Alenco Blyth	M M459	M J397	Benguet	IA J126	Commodities Research Unit (CRU)	MF J035	MF J035	IA J012	English Clays Lowering Pochin	IA J213
	Allied Minerals	MF J465	M J397	Bergbau-Forschung GmbH	M J497	CompAir	U J078	M J180	M J085	Eriez Magnetics	M J498
	Allis-Chalmers	M J465	M J397	Berjunal	MF J385	Cia. Vale do Rio Doce	IA J030	IA J107	M J263	Esco Corp.	N J451
	Alphaclear	A M307	M J396	Bethlehem Copper	IA J247	Cia. Vale do Rio Doce	IA J030	IA J107	IA J182	Esso	IA J439
	Alumax Inc.	IA J126	IA J162	Bethlehem Steel	IA J070	Cie des Potasses du Congo	M J247	IA J439	IA J461	European Coal and Steel Community (ECSC)	IA J051
	Alumina Co. of Canada (Alcan)	MF J114	IA J127	BH South	MF J222	(CPC)	MF J222	MF J222	MF J222	Euro Economic Community	IA J011
	Alumina Co. of America (Alcoa)	IA J294	IA J400	Billiton	IA J499	Conrad-Stork BV	MF J072	MF J227	MF J232	IA J126	E M189
	Amalgamated Tin Mines of Nigeria	MF J346	M J346	Blyvooruitzicht	MF J252	Consolidated Gold Fields	MF J320	MF J340	MF J383	Euro Thai Mining	IA J517
	Amas	MF J113	IA J125	Boliden	MF J222	Consolidated Gold Fields	MF J320	MF J340	MF J383	Exxon	IA J479
	Ames	IA J161	IA J182	Boliden	IA J379	Consolidated Gold Fields	MF J466	IA J515	IA J515	EZ Industries	IA J267
	American Mining Congress	MF J295	IA J334	Boliden	IA J379	Consolidated Gold Fields	MF J466	IA J515	IA J515	Falconbridge Copper	IA J068
	American Smelting & Refining Co. (Asarco)	MF J295	IA J334	Boliden	IA J379	Consolidated Gold Fields	MF J466	IA J515	IA J515	Falconbridge Nickel	MF J137
	Asarco Canada Petroleum	MF J295	IA J334	Boliden	IA J379	Consolidated Gold Fields	MF J466	IA J515	IA J515	Falconbridge Nickel	MF J137
	Asarco Canada Petroleum	MF J295	IA J334	Boliden	IA J379	Consolidated Gold Fields	MF J466	IA J515	IA J515	Falconbridge Nickel	MF J137
	Asarco Canada Petroleum	MF J295	IA J334	Boliden	IA J379	Consolidated Gold Fields	MF J466	IA J515	IA J515	Falconbridge Nickel	MF J137



Supplied by the Mining Journal Limited, 15 Wilson Street, London EC2N 2TN, and printed by C.P.A. (Printers) Limited,  
5 Gibbercks, Timbering Lane, Barking, Essex SS14 1PE.

